YASKAWA

AC Drives

Common Catalogue

www.yaskawaindia.in

Always One Step Ahead

Global Standard: **Yaskawa AC Drives**

With world-leading quality and technology, Yaskawa delivers AC Drives that help preserve the environment, support comfortable lifestyles, and improve the efficiency and productivity of industrial machines all over the world.

Features

ENERGY SAVING

Environmentally Friendly Drives

Yaskawa offers an energy efficient drive that maximizes motor performance. We also provide a variety of environmentally friendly drives, including models fully compliant with the EU's RoHs directive.

We can help you to build eco-friendly systems with our strong lineup of general-purpose and application specific AC Drives.

RELIABILITY

Safe and Reliable Drives

Yaskawa continues to improve AC Drive technology to minimize unpleasant electromagnetic noise, the effects of harmonic currents and noise on the power-supply line, as well as motor stress and current leakage that could result in degraded insulation or bearing corrosion. Yaskawa offers safe, reliable, and high-quality AC Drives compliant with global safety standards and loaded with a wide variety of safety features.

EASY OPERATION

Easy-to-Use Drives

Yaskawa's technology is a product of our extensive knowledge and years of experience in various fields, giving us the flexibility to respond to all your application needs.

As part of Yaskawa's endless pursuit to make AC Drives more user-friendly, Yaskawa's AC Drives go beyond advanced performance and function. In addition to high-torque, ripple-less operation at low speeds, high-precision, high-speed response, Yaskawa AC Drives are also capable of restarting a coasting motor and our new product line is easier than ever to maintain, as well as impressively small and lightweight.

GLOBAL INETWORK

Global Standard Drives

Yaskawa's AC Drives provide support for a variety of field network systems all over the world. This feature enables flexible system construction, expansion, efficient wiring, and connection to a host PLC. Yaskawa's AC Drive comply with UL, cUL, CE, and other international standards. Multi-language display support is also available.

- Fans and pumps
- Construction and engineering machinery
- Machinery for paper processing and printing press
- Metallic processing machines and machine tools
- Textile machinery

- Packing machinery
- Food processing machinery
- Handling machines
- Chemical processing machinery
- Machinery for the lumber industry

- Health, medical, and welfare-related devices
- Amusement rides,
- Environment and lifestyle-related devices
- IT-related devices

Yaskawa AC Drives

	Industrial Process Drive					
Type	**GA700**	**A1000**	**A1000HHP**	**Varispeed G7**	**V1000**	
						
Rated kW						
1-Phase AC Input	-	-	-	-	200VAC 0.2 - 5.5kW	
3-Phase AC Input	200VAC 0.4 - 110kW	200VAC 0.4 - 110kW	400VAC 300 - 1350kW	200VAC 0.4 - 110kW	200VAC 0.2 - 18.5kW	
	400VAC 0.4 - 355kW	400VAC 0.4 - 630kW	690VAC 350-1750kW	400VAC 0.4 - 300kW	400VAC 0.4 - 18.5kW	
Applicable motor						
Induction Motor Closed / Open Loop	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes	NA/Yes	
Permanent Magnet Motor Closed/Open Loop	Yes/Yes	Yes/Yes	No/No	No/No	NA/Yes (SPM only)	
Synchronous Reluctance Motor Closed/Open Loop	NA/Yes	NA/NA	No/No	No/No	NA/NA	
Cooling Method						
Air Cooling	Yes	Yes	Yes	Yes	Yes	
Torque Control	Yes	Yes	Yes	Yes	No	
Braking Chopper Built-in	Yes (Upto 75kW)	Yes (Upto 37kW)	No	Yes (Upto 15kW)	Yes (All)	
Max. Output Frequency	590Hz	400Hz	150Hz	400Hz	400Hz	
I/O Built-in						
Analog Input/Output	3 / 2	3 / 2	3 / 2	3 / 2	2 /1	
Digital Input/Output	8 / 4	8 / 4	8 / 4	12 / 6	7 / 3	
Motor Thermal Protection	Yes	Yes	Yes	Yes	Yes	
Fieldbus*						
RS-422/485 (Memobus/Modbus)	Built in	Built in	Built in	Built in	Built in	
RS-232C	Built in	Built in	Built in	Built in	Built in	
Mechatrolink	Optional	Optional	Optional	Optional	Optional	
Ethernet/IP	Optional	Optional	Optional	No	Optional	
EtherCAT	Optional	Optional	Optional	No	Optional	
Modbus TCP/IP	Optional	Optional	Optional	No	Optional	
Profinet	Optional	Optional	Optional	No	Optional	
CC-Link	Optional	Optional	Optional	Optional	Optional	
DeviceNet	Optional	Optional	Optional	Optional	Optional	
Profibus-DP	Optional	Optional	Optional	Optional	Optional	
CANopen	Optional	Optional	Optional	Optional	Optional	
Bacnet	Optional	Optional	Optional	Optional	Optional	
Functions						
Energy Saving Parameter	Yes	Yes	Yes	Yes	Yes	
Dual Rating (ND/HD)	Yes	Yes	Yes	NA	Yes	
Low Harmonics (THDI < 5%)	No	No	No	No	No	
Four Quadrant Operation	No	No	No	No	No	
Speed Search	Yes	Yes	Yes	Yes	Yes	
PID Control (with Sleep Function)	Yes	Yes	Yes	Yes	Yes	
Momentary Power Loss Ride- Thru	Yes	Yes	Yes	Yes	Yes	
Application Parameter Presets	Yes	Yes	Yes	Yes	Yes	
Predictive Maintenance Functions	Yes	Yes	Yes	No	Yes	
USB Interface	Yes	Yes	Yes	No	No	
Battery Rescue Operation/UPS	NA	NA	NA	NA	NA	
External 24V Power Supply Unit	PCB Port	Optional	NA	No	Optional	
DriveworksEZ (PLC SW)	Yes	Yes	Yes	No	Yes	
Funtional Safely Options						
Safe Disable	SIL3/PL e	SIL2/PL d	SIL2/PL d	NA*1	SIL2/PL d	

* Kindly Contact Yaskawa Executive for Drive Compatibility with Fieldbus Communication.
Note: All kW Ratings Mentioned are in ND.

Machinery Drive			Regenerative Solutions			Application Specifications
	GA500	J1000	U1000	D1000	R1000	L1000 A
						
	200VAC 0.1 - 3.7kW	200VAC 0.2 - 2.2kW	-	-	-	-
	200VAC 0.1 - 22kW	200VAC 0.2 - 5.5kW	200VAC 5.5 - 55kW	200VAC 5.0 - 130kW	200VAC 3.5 - 105kW	200VAC 1.5 - 110kW
	400VAC 0.37 - 30kW	400VAC 0.4 - 5.5kW	400VAC 2.2 - 400kW	400VAC 5.0 - 630kW	400VAC 3.5 - 300kW	400VAC 1.5 - 110kW
	NA/Yes	NA/Yes (Only V/f)	Yes/Yes	NA	NA	Yes/Yes
	NA/Yes	NA/NA	Yes/Yes	NA	NA	Yes/Yes
	No/Yes	NA/NA	No/No	NA	NA	No/No
	Yes	Yes	Yes	Yes	Yes	Yes
	No	NA	Yes	NA	NA	Yes
	Yes (All)	Yes (All)	NA	NA	NA	Yes (Upto 30kW)
	590Hz	400Hz	400Hz	NA	NA	150Hz
	2 / 1	1 / 1	3 / 2	NA	NA / 2	2 / 2
	7 / 3	5 / 1	8 / 4	8 / 4	8 / 4	8 / 6
	Yes	Yes	Yes	No	No	Yes
	Built in	Optional	Built in	Built in	Built in	Built in
	Built in	Optional	Built in	Built in	Built in	Built in
	Optional	No	Optional	Optional	Optional	Optional
	Optional	No	Optional		Optional	Optional
	Optional	No	No		Optional	Optional
	Optional	No	Optional		Optional	Optional
	Optional	No	Optional		Optional	Optional
	Optional	No	Optional	Optional	Optional	Optional
	Optional	No	Optional	Optional	Optional	Optional
	Optional	No	Optional	Optional	Optional	Optional
	Optional	No	Optional	Optional	Optional	Optional
	Optional	No	Optional		Optional	Optional
	Yes	No	Yes	NA	Yes	Yes
	Yes	Yes	Yes	NA	NA	NA
	No	No	Yes	NA	No	No
	No	No	Yes	NA	NA	No
	Yes	No	Yes	NA	NA	NA
	Yes	No	Yes	NA	NA	NA
	Yes	Yes	Yes	Yes	Yes	Yes
	Yes	No	Yes	NA	NA	NA
	Yes	No	Yes	Yes	Yes	Yes
	Yes	No	Yes	Yes	Yes	Yes
	NA	NA	NA	NA	NA	Yes
	Optional	No	Optional	NA	NA	Optional
	Yes	No	Yes	No	No	No
	SIL3/PL e	NA	SIL3/PL e	NA	NA	SIL2/PL d

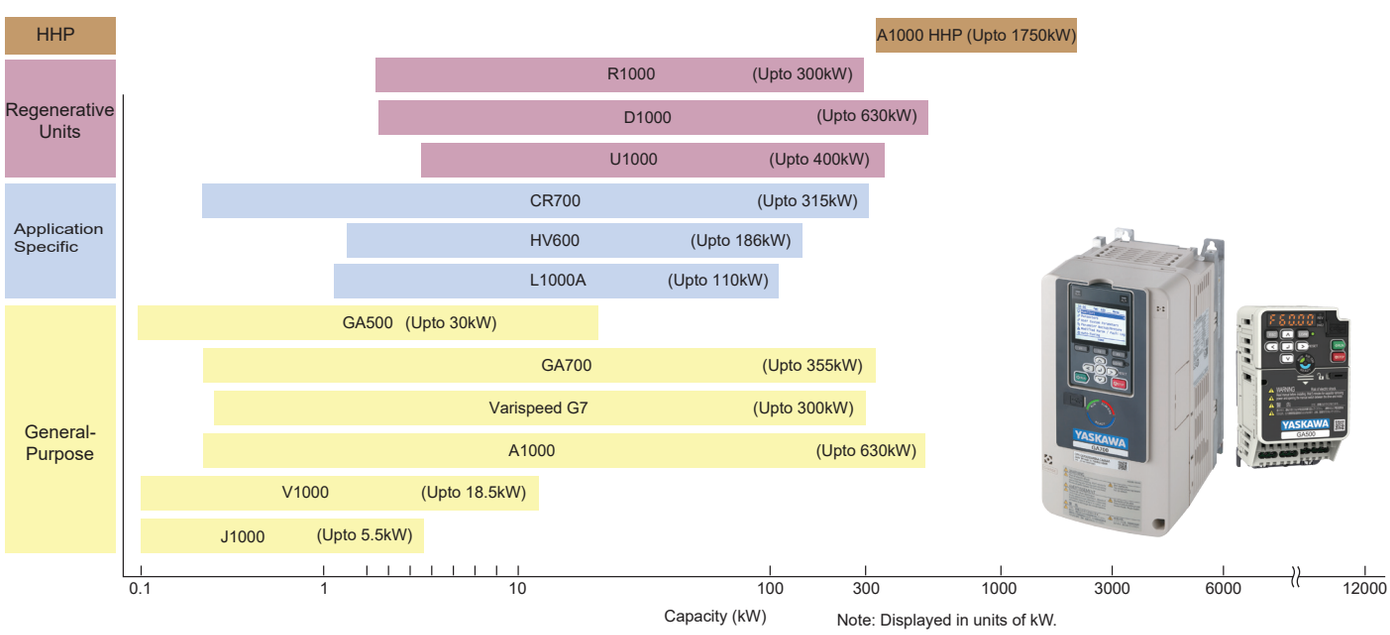
*1: Baseblock - Software Protection is Available.

Select by Application

AC Drives Purpose General YASKAWA	Fluid Machine				Metal Working, Machine Tool		Open/Close Mechanism		Load Conveyance				
	 Fan	 Pump	 Compressor	 HVAC	 Punching Press	 Machine Tool	 Shutter Door	 Automatic Doors	 Conveyor	 Hoist, Crane	 Stacker Crane	 Chain Block Hoist	
U1000	●	●	●	●	●					●	●		
Varispeed G7	●	●	●		●	●			●	●	●		
GA700	●	●	●	●	●	●			●	●	●		
A1000	●	●	●	●	●	●			●	●			
GA500	●	●	●	●			●	●	●			●	
V1000	●	●	●	●			●	●	●			●	
J1000	●	●					●	●	●				
L1000													
HV600	●	●	●										
CR700										●			

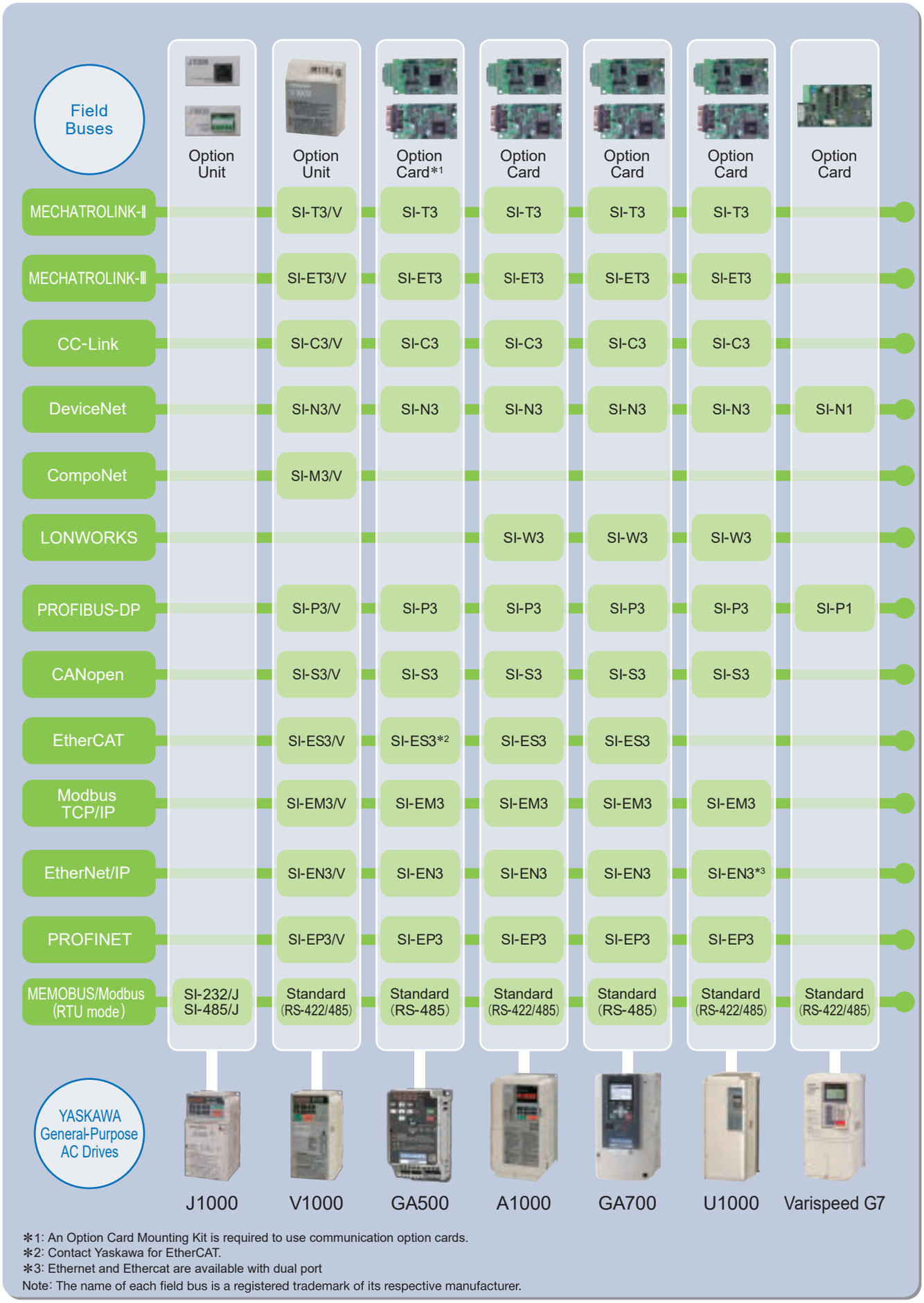
	General Machines											Medical Equipment
	Escalators	Automated Vertical Storage System	Automatic Parking System	Extruder	Winder	Centrifugal Separators	Mixers	Automotive Testing Machine	Food & Beverage	Packaging	Commercial Washing Machine	Medical Machines
	●	●	●	●		●	●	●				●
	●	●	●	●	●			●	●		●	●
	●	●	●	●	●	●		●			●	●
	●	●	●	●	●	●		●			●	●
									●	●	●	●
									●	●	●	●
									●			
	●											

AC Drive Series



Global Field Networks

Option cards and option units for communications provide support for all major field networks.
Easily connect to hosts and PLCs, reduce wiring, and implement centralized management of production equipment.



*1: An Option Card Mounting Kit is required to use communication option cards.
*2: Contact Yaskawa for EtherCAT.
*3: Ethernet and Ethercat are available with dual port
Note: The name of each field bus is a registered trademark of its respective manufacturer.

Standard Specifications

General-Purpose

Compact V/f Control J1000

CIMR J T 2 A 0001 B A A

CIMR: AC Drive; J: J1000 Series; Design Revision Order

No.	Region Code
T	Asia

No.	Voltage Class
B	200V 1-Phase
2	200V 3-Phase
4	400V 3-Phase

No.	Customized Specifications
A	Standard Model

No.	Output Current A
	Indicates the rated output current of the Normal Duty rating rounded off to the nearest whole number.

No.	Enclosure Type
B	IP20
J	Finless

No.	Environmental Specifications
A	Standard
M	Humidity, Dust
N	Oil
S	Shock, Vibration

Note: Contact a Yaskawa representative for more on environmental specifications.

200 V Class

Model	Three-Phase CIMR-J□2A□□□□		0001	0002	0004	0006	0008	0010	0012	0018	0020
	Single-Phase CIMR-J□BA□□□□		0001	0002	0003	0006	—	0010	–	–	–
Max. Applicable Motor Capacity kW		ND	0.2	0.4	0.75	1.1	1.5	2.2	3	3.7	5.5
		HD	0.1	0.2	0.4	0.75	1.1	1.5	2.2	3	3.7
Output	Rated Output Capacity kVA	ND	0.5	0.7	1.3	2.3	3.0	3.7	4.6	6.7	7.5
		HD	0.3	0.6	1.1	1.9	2.6	3	4.2	5.3	6.7
	Rated Output Current A	ND	1.2	1.9	3.5	6	8	9.6	12	17.5	19.6
		HD	0.8	1.6	3	5	6.9	8	11	14	17.5
	Overload Tolerance		ND Rating: 120% of rated output current for 60 s, HD Rating: 150% of rated output current for 60 s. (Derating may be required for repetitive loads)								
	Max. Output Voltage		Three-phase power supply: three-phase 200 to 240 V (relative to input voltage) Single-phase power supply: three-phase 200 to 240 V (relative to input voltage)								
	Max. Output Frequency		400 Hz (user-set)								
Power	Rated Voltage/Rated Frequency		Three-phase AC power supply: 200 to 240 V 50/60 Hz, Single-phase AC power supply: 200 to 240 V 50/60 Hz, DC power supply: 270 to 340 V								
	Allowable Voltage Fluctuation		−15 to +10%								
	Allowable Frequency Fluctuation		±5%								

400 V Class

Model	CIMR-J□4A□□□□		0001	0002	0004	0005	0007	0009	0011
Max. Applicable Motor Capacity kW		ND	0.4	0.75	1.5	2.2	3	3.7	5.5
		HD	0.2	0.4	0.75	1.5	2.2	3	3.7
Output	Rated Output Capacity kVA	ND	0.9	1.6	3.1	4.1	5.3	6.7	8.5
		HD	0.9	1.4	2.6	3.7	4.2	5.5	7
	Rated Output Current A	ND	1.2	2.1	4.1	5.4	6.9	8.8	11.1
		HD	1.2	1.8	3.4	4.8	5.5	7.2	9.2
	Overload Tolerance		ND Rating: 120% of rated output current for 60 s, HD Rating: 150% of rated output current for 60 s. (Derating may be required for repetitive loads)						
	Max. Output Voltage		Three-phase 380 to 480 V (relative to input voltage)						
	Max. Output Frequency		400 Hz (user-set)						
Power	Rated Voltage/Rated Frequency		Three-phase AC power supply: 380 to 480 V 50/60 Hz, DC power supply: 510 to 680 V						
	Allowable Voltage Fluctuation		−15 to +10%						
	Allowable Frequency Fluctuation		±5%						

Common Specifications

Item		Specifications
Control Characteristics	Control Method	V/f Control
	Frequency Control Range	0.01 to 400 Hz
	Frequency Accuracy (Temperature Fluctuation)	Digital reference: within ±0.01% of the max. output frequency (−10 to +50˚C)
		Analog reference: within ±0.5% of the max. output frequency (25 ±10˚C)
	Frequency Setting Resolution	Digital reference: 0.01 Hz
		Analog reference: 1/1000 of max. output frequency
	Output Frequency Resolution	20 bit resulution at maximum output frequency (E1–04)
	Frequency Setting Signal	Main frequency reference: 0 to +10 Vdc (20 kΩ), 4 to 20 mA (250 Ω), 0 to 20 mA (250 Ω)
	Starting Torque	150% / 3 Hz
	Speed Control Range	1:20 to 1:40
	Accel/Decel Time	0.00 to 6000.0 s
	Braking Torque	Continuous regen. torque: approx. 20%
	V/f Characteristics	User-selected programs, V/f preset patterns possible
	Main Control Functions	Momentary power loss ride-thru, Speed search, 9-step speed (max), Accel/decel time switch, S-curve accel/decel, 3-wire sequence, Cooling fan on/off switch, Slip compensation, Torque compensation, Frequency jump, Upper/lower limits for frequency reference, DC injection braking at start and stop, Overexcitation braking, Fault reset.
Standards Compliant		• UL 508C • IEC/EN61800-3, IEC/EN61800-5-1
Analog Input		1 (4-20 mA/ 0-10V)
Ambient Temperature		-10 to 50 deg C; derating above 50 to 60 deg C at 2% per 1 deg C

Standard Specifications

General-Purpose

Compact Vector Control V1000

CIMR V T 2 A 0001 F A A

CIMR: AC Drive
V: V1000 Series
A A: Design Version

No.	Region Code
T	Asia

No.	Voltage Class
B	200V 1-Phase
2	200V 3-Phase
4	400V 3-Phase

No.	Output Current Code (A)
See charts below	

Note: Current codes are equivalent to the current rating.

No.	Enclosure Type
F	IP20/NEMA 1 Type
J	IP20/NEMA 1 Type(Finless)
B	IP20/NEMA 1 Type (Open Chassis)

No.	Environmental Specification
A	Standard
M	Humidity And Dust Resistant
S	Shock, Vibration
N	Oil
K	Gas

No.	Customized Specifications
A	Standard Model

200 V Class

Model	Three-Phase CIMR-V□2A□□□□		0001	0002	0004	0006	0008	0010	0012	0018	0020	0030	0040	0056	0069
	Single-Phase CIMR-V□BA□□□□		0001	0002	0003	0006	—	0010	0012	–	0018	–	–	–	–
Max. Applicable Motor Capacity kW		ND	0.2	0.4	0.75	1.1	1.5	2.2	3	3.7	5.5	7.5	11	15	18.5
		HD	0.1	0.2	0.4	0.75	1.1	1.5	2.2	3	3.7	5.5	7.5	11	15
Output	Rated Output Capacity kVA	ND	0.5	0.7	1.3	2.3	3.0	3.7	4.6	6.7	7.5	11.4	15.2	21.3	26.3
		HD	0.3	0.6	1.1	1.9	2.6	3	4.2	5.3	6.7	9.5	12.6	17.9	22.9
	Rated Output Current A	ND	1.2	1.9	3.5	6	8	9.6	12	17.5	19.6	30	40	56	69
		HD	0.8	1.6	3	5	6.9	8	11	14	17.5	25	33	47	60
	Overload Tolerance		ND Rating: 120% of rated output current for 60 s, HD Rating: 150% of rated output current for 60 s. (Derating may be required for repetitive loads)												
	Max. Output Voltage		Three-phase power supply: Three-phase 200 to 240 V (relative to input voltage) Single-phase power supply: Three-phase 200 to 240 V (relative to input voltage)												
	Max. Output Frequency		400 Hz (user-set)												
Power	Rated Voltage/Rated Frequency		Three-phase AC power supply: 200 to 240 V 50/60 Hz, Single-phase AC power supply: 200 to 240 V 50/60 Hz, DC power supply: 270 to 340 V												
	Allowable Voltage Fluctuation		−15 to +10%												
	Allowable Frequency Fluctuation		±5%												

400 V Class

Model	Three-Phase CIMR-V□4A□□□□		0001	0002	0004	0005	0007	0009	0011	0018	0023	0031	0038
Max. Applicable Motor Capacity kW		ND	0.4	0.75	1.5	2.2	3	3.7	5.5	7.5	11	15	18.5
		HD	0.2	0.4	0.75	1.5	2.2	3	3.7	5.5	7.5	11	15
Output	Rated Output Capacity kVA	ND	0.9	1.6	3.1	4.1	5.3	6.7	8.5	13.3	17.5	23.6	29
		HD	0.9	1.4	2.6	3.7	4.2	5.5	7	11.3	13.7	18.3	23.6
	Rated Output Current A	ND	1.2	2.1	4.1	5.4	6.9	8.8	11.1	17.5	23	31	38
		HD	1.2	1.8	3.4	4.8	5.5	7.2	9.2	14.8	18	24	31
	Overload Tolerance		ND Rating: 120% of rated output current for 60 s, HD Rating: 150% of rated output current for 60 s. (Derating may be required for repetitive loads)										
	Max. Output Voltage		Three-phase 380 to 480 V (relative to input voltage)										
	Max. Output Frequency		400 Hz (user-set)										
Power	Rated Voltage/Rated Frequency		Three-phase AC power supply: 380 to 480 V 50/60 Hz, DC power supply: 510 to 680 V										
	Allowable Voltage Fluctuation		−15 to +10%										
	Allowable Frequency Fluctuation		±5%										

Items		Specifications
Control Characteristics	Control Method	Open Loop Vector Control (Current Vector), V/f Control, Open Loop Vector Control for PM motors (For SPM Motors)
	Frequency Control Range	0.01 to 400 Hz
	Frequency Accuracy (Temperature Fluctuation)	Digital reference: within ± 0.01% of the max. output frequency (− 10 to +50˚C)
		Analog reference: within ± 0.1% of the max. output frequency (25 ± 10˚C)
	Output Frequency Resolution	$1/2^{20}$ x maximum output frequency (E1–04)
	Frequency Setting Signal	Main frequency reference: 0 to +10 Vdc (20 k Ω), 4 to 20 mA (250 Ω), 0 to 20 mA (250 Ω) Main speed reference: Pulse Train Input max. 32 kHz
	Starting Torque	200% / 0.5 Hz (assumes Heavy Duty rating IM of 3.7 kW or less using Open Loop Vector Control), 50% / 6 Hz (assumes Open Loop Vector Control for PM motors)
	Speed Control Range	1:100 (Open Loop Vector Control), 1:40 (V/f Control), 1:10 (Open Loop Vector Control for PM motors)
	Speed Control Accuracy	± 0.2% in Open Loop Vector Control
	Speed Response	5 Hz in Open Loop Vector (25 ± 10˚C) (excludes temperature fluctuation when performing Rotational Auto-Tuning)
	Torque Limit	Open Loop Vector Control allows separate settings in four quadrants.
	Accel/Decel Time	0.00 to 6000.0 s (4 selectable combinations of independent acceleration and deceleration settings)
	Braking Torque	Continuous regen. torque: approx. 20% (approx. 125% with dynamic braking resistor option) Instantaneous Average Decel Torque: 0.1/0.2kW: over 150%, 0.4/0.75kW: over 100%, 1.5kW: over 50%, 2.2kW and above: over 20% Continuaous Regen Torque: 20%, 125% with a Braking Resistor Unit: (10% ED) 10s With an internal braking resistor.
	V/f Characteristics	User-selected programs, V/f preset patterns possible
	Main Control Functions	Momentary power loss ride-thru, Speed search, Overtorque detection, Torque limit, 17-step speed (max), Accel/decel time switch, S-curve accel/decel, 3-wire sequence, Auto-Tuning (rotational, stationary tuning for resistance between lines), Dwell, Cooling fan on/off switch, Slip compensation, Torque compensation, Frequency jump, Frequency upper/lower limit settings, DC injection braking at start/stop, Overexcitation braking High slip braking, PID control (with sleep function), Energy saving control, MEMOBUS communication (RS-485/422 max. 115.2 kbps), Fault restart, Application presets, DriveWorksEZ (customization function), Removable terminal block with parameter backup function.
Standards Compliant		• UL508C • IEC/EN61800-3, IEC/EN61800-5-1 • ISO/EN13849-1 Cat.3 PLd, IEC/EN61508 SIL2
Protection Design		IP20 open-chassis
Ambient Temperature		-10 to 50 deg C; derating above 50 to 60 deg C at 2% per 1 deg C
Available I/O		(7) multi-function digital inputs (1) hardwire baseblock (2) multi-function analog inputs (1) multi-function pulse inputs (1) multi-function relay output (2) multi-function photo-coupler outputs (1) multi-function 0-10 Vdc analog outputs (1) multi-function pulse outputs

Standard Specifications

General-Purpose

Compact V/f Control GA500

CIPR – GA50 T 4 004 A B A A

Design Vision

Product Series	Region Code	Voltage Class	Rated Output Current	EMC Filter Option	Enclosure Type	Environmental Spec
GA500 Series	T: Asia	B: 200V 1-Phase 2: 200V 3-Phase 4: 400V 3-Phase	See Rating Table	A: Standard E: EMC Filter built-In	B: IP20	A: Standard

Ratings

200 V Class (Single-Phase)

Model CIPR-GA50 A□□□□□			B001	B002	B004	B006	B010	B012	B018
Max. Applicable Motor Capacity kW		HD	0.1	0.2	0.4	0.75	1.5	2.2	3.7
		ND	0.2	0.4	0.75	1.1	2.2	3	-
Input	Rated Input Current A	HD	1.4	2.8	5.5	11	14.1	20.6	35
		ND	2	5	7.3	13.8	20.2	24	-
Output	Rated Output Current A	HD	0.8	1.6	3	5	8	11	17.6
		ND	1.2	1.9	3.5	6	9.6	12.2	-
	Overload Tolerance		• HD Rating: 150% of rated output current for 60 s • ND Rating: 110% of rated output current for 60 s Note: Derating may be required for applications that start and stop frequently.						
	Carrier Frequency		Derating the output current enables a maximum of 15 kHz to be set.						
	Max. Output Voltage		Three-phase 200 to 240 V (Note: The maximum output voltage is proportional to the input voltage.)						
	Max. Output Frequency		590 Hz The frequencies that can be set vary depending on the control mode used.						
Power	Rated Voltage/ Rated Frequency		• Single-phase AC power supply 200 V to 240 V 50/60 Hz • DC power supply 270 V to 340 V						
	Allowable Voltage Fluctuation		−15% to 10%						
	Allowable Frequency Fluctuation		±5%						

200 V Class (Three-Phase)

Model CIPR-GA50 □□□□□			2001	2002	2004	2006	2008	2010	2012	2018	2021	2030	2042	2056	2070	2082
Max. Applicable Motor Capacity kW		HD	0.1	0.2	0.4	0.75	1.1	1.5	2.2	3	3.7	5.5	7.5	11	15	18.5
		ND	0.2	0.4	0.75	1.1	1.5	2.2	3	3.7	5.5	7.5	11	15	18.5	22
Input	Rated Input Current A	HD	0.7	1.5	2.9	5.9	7	7.5	11	15.6	18.9	24	37	52	68	96
		ND	1.1	1.9	3.9	7.3	8.8	10.8	13.9	18.5	24	37	52	68	80	114
Output	Rated Output Current A	HD	0.8	1.6	3	5	6.9	8	11	14	17.6	25	33	47	60	75
		ND	1.2	1.9	3.5	6	8	9.6	12.2	17.5	21	30	42	56	70	82
	Overload Tolerance		• HD Rating: 150% of rated output current for 60 s • ND Rating: 110% of rated output current for 60 s Note: Derating may be required for applications that start and stop frequently.													
	Carrier Frequency		Derating the output current enables a maximum of 15 kHz to be set.													
	Max. Output Voltage		Three-phase 200 to 240 V (Note: The maximum output voltage is proportional to the input voltage.)													
	Max. Output Frequency		590 Hz The frequencies that can be set vary depending on the control mode used.													
Power	Rated Voltage/ Rated Frequency		• Three-phase AC power supply 200 V to 240 V 50/60 Hz • DC power supply 270 V to 340 V													
	Allowable Voltage Fluctuation		−15% to 10%													
	Allowable Frequency Fluctuation		±5%													

400 V Class (Three-Phase)

Model CIPR-GA50 □□□□□			4001	4002	4004	4005	4007	4009	4012	4018	4023	4031	4038	4044	4060
Max. Applicable Motor Capacity kW		HD	0.2	0.4	0.75	1.5	2.2	3	3.7	5.5	7.5	11	15	18.5	22
		ND	0.4	0.75	1.5	2.2	3	3.7	5.5	7.5	11	15	18.5	22	30
Input	Rated Input Current A	HD	1.2	1.8	3.2	4.4	6	8.2	10.4	15	20	29	39	50.5	59.7
		ND	1.2	2.1	4.3	5.9	8.1	9.4	14	20	24	38	44	59.7	80.7
Output	Rated Output Current A	HD	1.2	1.8	3.4	4.8	5.6	7.3	9.2	14.8	18	24	31	39	45
		ND	1.2	2.1	4.1	5.4	7.1	8.9	11.9	17.5	23.4	31	38	44	60
	Overload Tolerance		• HD Rating: 150% of rated output current for 60 s • ND Rating: 110% of rated output current for 60 s Note: Derating may be required for applications that start and stop frequently.												
	Carrier Frequency		Derating the output current enables a maximum of 15 kHz to be set.												
	Max. Output Voltage		Three-phase 380 to 480 V (Note: The maximum output voltage is proportional to the input voltage.)												
	Max. Output Frequency		590 Hz The frequencies that can be set vary depending on the control mode used.												
Power	Rated Voltage/ Rated Frequency		• Three-phase AC power supply 380VAC to 480VAC 50/60 Hz • DC power supply 540VDC to 610VDC												
	Allowable Voltage Fluctuation		−15% to 10%												
	Allowable Frequency Fluctuation		±5%												

Items		Specifications
Control Characteristics	Control Method	The following controls are selected by parameters. • V/f Control (V/f) • Open Loop Vector Control for PM (OLV/PM) • EZ Open Loop Vector Control (EZOLV) • Open Loop Vector Control (OLV) • Advanced Open Loop Vector Control for PM (AOLV/PM)
	Frequency Control Range	• EZ Open Loop Vector Control: 0.01 Hz to 120 Hz • Advanced Open Loop Vector Control for PM: 0.01 Hz to 270 Hz • V/f Control, Open Loop Vector Control, Open Loop Vector Control for PM: 0.01 Hz to 590 Hz
	Frequency Accuracy (Temperature Fluctuation)	Digital reference: within ± 0.01% of the max. output frequency (− 10˚C to +50˚C)
		Analog reference: within ± 0.1% of the max. output frequency (25˚C ± 10˚C)
	Output Frequency Resolution	Digital reference: 0.01 Hz Analog reference: 1/2048 of the maximum output frequency setting (11 bit)
	Output Frequency Resolution	0.001 Hz
	Frequency Setting Resolution	Main frequency reference: 0 to 10 Vdc (20 kΩ), 4 to 20 mA (250Ω), 0 to 20 mA (250Ω) Main speed reference: Pulse train input (max. 32 kHz)
	Starting Torque	• V/f Control: 150%/3 Hz • Open Loop Vector Control for PM: 100%/5% speed • EZ Open Loop Vector Control: 100%/10% speed • Open Loop Vector Control: 150%/0.6 Hz • Advanced Open Loop Vector Control for PM: 100%/0 min-1
	Speed Control Range	• V/f Control: 1:40 • Open Loop Vector Control for PM: 1:10 • EZ Open Loop Vector Control: 1:10 • Open Loop Vector Control: 1:100 • Advanced Open Loop Vector Control for PM: 1:100
	Zero Speed Control	Possible in Advanced Open Loop Vector Control for PM.
	Torque Limit	Parameter settings allow separate limits in four quadrants in Open Loop Vector Control, Advanced Open Loop Vector Control for PM, and EZ Open Loop Vector Control.
	Accel/Decel Time	0.0 s to 6000.0 s The drive allows four selectable combinations of independent acceleration and deceleration settings.
	Braking Torque	Approx. 20% Approx. 125% with a dynamic braking option
	V/f Characteristics	User-selected programs, V/f preset patterns possible
	Main Control Functions	Feed Forward Control, Momentary Power Loss Ride-Thru, Speed Search, Overtorque detection, torque limit, 17 Step Speed (max.), accel/decel switch, S-curve accel/decel, 3-wire sequence, Auto-Tuning (rotational, stationary), Dwell, cooling fan on/off switch, slip compensation, torque compensation, Frequency Jump, Upper/lower limits for frequency reference, DC Injection Braking at start and stop, Overexcitation Deceleration, High Slip Braking, PID control (with Sleep function), Energy Saving Control, MEMOBUS/Modbus (RTU mode) Communications (RS-485/422, max. 115.2 kbps), Fault Restart, Application Presets, DriveWorksEZ (customized functions), Parameter Backup Function, Online Tuning, KEB, Overexcitation Deceleration, Overvoltage Suppression, High Frequency Injection, etc.
Standards Compliant		• UL61800-5-1 • EN61800-3 • ISO/EN13849-1 Cat.3 PLe, IEC/EN61508 SIL3 (Two Safe Disable inputs and one EDM output)
Protection Design		IP20
Ambient Temperature		-10 to 50 deg C; derating above 50 to 60 deg C at 2% per 1 deg C
Standard I/O		(7) multi-function digital inputs (1) hardwire baseblock (2) multi-function analog inputs (1) multi-function pulse inputs (1) multi-function relay output (2) multi-function photo-coupler outputs (1) multi-function analog outputs (1) multi-function pulse outputs

Note: Perform Rotational Auto-Tuning to achieve specifications listed for Open Loop Vector Control and Advanced Open Loop Vector Control (PM).

Standard Specifications

General-Purpose

High Performance Vector Control A1000

CIMR – A D 4 A 0004 F M A

CIMR – : AC Drive
A : A1000 Series
A : Design Revision Order

No.	Region Code
T	Asia
D	India

No.	Voltage Class
2	200V 3-Phase
4	400V 3-Phase

No.	Customized Specifications
A	Standard model

Note: Contact Yaskawa for information on software for cranes and for high-frequency output applications.

Output Current A
Indicates the rated output current of the Normal Duty rating rounded off to the nearest whole number.

No.	Enclosure Type
A	IP00
F	UL Type 1
J	Finless (IP20)
L	Finless (IP00)

No.	Environmental Specification
A	Standard
K	Gas
M	Humidity, dust
N	Oil
P	Moisture, dust, vibration
R	Gas, vibration
S	Shock, vibration
T	Oil, vibration

Note: Contact a Yaskawa representative for more on environmental specifications.

200 V Class

Model CIMR-A□2A□□□			0004	0006	0008	0010	0012	0018	0021	0030	0040	0056	0069	0081	0110	0138	0169	0211	0250	0312	0360	0415
Max. Applicable Motor Capacity kW		ND	0.75	1.1	1.5	2.2	3	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	110
		HD	0.4	0.75	1.1	1.5	2.2	3	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110
Output	Rated Output Capacity kVA	ND	1.3	2.3	3	3.7	4.6	6.7	8	11.4	15.2	21	26	31	42	53	64	80	95	119	137	158
		HD	1.2	1.9	2.6	3	4.2	5.3	6.7	9.5	12.6	17.9	23	29	32	44	55	69	82	108	132	158
	Rated Output Current A	ND	3.5	6	8	9.6	12	17.5	21	30	40	56	69	81	110	138	169	211	250	312	360	415
		HD	3.2	5	6.9	8	11	14	17.5	25	33	47	60	75	85	115	145	180	215	283	346	415
	Overload Tolerance		ND Rating: 120% of rated output current for 60 s HD Rating: 150% of rated output current for 60 s.(Derating may be required for repetitive loads)																			
	Max. Output Voltage		Three-phase 200 to 240 V (relative to input voltage)																			
	Max. Output Frequency		400 Hz (user-set)																			
Power	Rated Voltage/Rated Frequency		Three-phase AC power supply: 200 to 240 V 50/60 Hz, DC power supply: 270 to 340 V																			
	Allowable Voltage Fluctuation		−15 to +10%																			
	Allowable Frequency Fluctuation		±5%																			

400 V Class

Model CIMR-A□4A□□□			0002	0004	0005	0007	0009	0011	0018	0023	0031	0038	0044	0058	0072	0088	0103	0139	0165	0208	0250	0296	0362	0414	0515	0675	0930	1200
Max. Applicable Motor Capacity kW		ND	0.75	1.5	2.2	3	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	185	220	250	355	500	630
		HD	0.4	0.75	1.5	2.2	3	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	185	220	315	450	560
Output	Rated Output Capacity kVA	ND	1.6	3.1	4.1	5.3	6.7	8.5	13.3	17.5	24	29	34	44	55	67	78	106	126	159	191	226	276	316	392	514	709	915
		HD	1.4	2.6	3.7	4.2	5.5	7	11.3	13.7	18.3	24	30	34	46	57	69	85	114	137	165	198	232	282	343	491	617	831
	Rated Output Current A	ND	2.1	4.1	5.4	6.9	8.8	11.1	17.5	23	31	38	44	58	72	88	103	139	165	208	250	296	362	414	515	675	930	1200
		HD	1.8	3.4	4.8	5.5	7.2	9.2	14.8	18	24	31	39	45	60	75	91	112	150	180	216	260	304	370	450	605	810	1090
	Overload Tolerance		ND Rating: 120% of rated output current for 60 s HD Rating: 150% of rated output current for 60 s.(Derating may be required for repetitive loads)																									
	Max. Output Voltage		Three-phase 380 to 480 V (relative to input voltage)																									input V × 0.95
	Max. Output Frequency		400 Hz (user-set)																									
Power	Rated Voltage/Rated Frequency		Three-phase AC power supply: 380 to 480 V 50/60 Hz, DC power supply: 510 to 680 V																									
	Allowable Voltage Fluctuation		−15 to +10%																									
	Allowable Frequency Fluctuation		±5%																									

Items		Specifications
Control Characteristics	Control Method	V/f Control, V/f Control with PG, Open Loop Vector Control, Closed Loop Vector Control, Open Loop Vector for PM, Closed Loop Vector for PM, Advanced Open Loop Vector for PM
	Frequency Control Range	0.01 to 400 Hz
	Frequency Accuracy (Temperature Fluctuation)	Digital referece: within ± 0.01% of the max. output frequency (− 10 to +40˚C)
		Analog referece: within ± 0.1% of the max. output frequency (25˚C ± 10˚C)
	Output Frequency Resolution	0.001 Hz
	Frequency Setting Resolution	Main frequency reference: − 10 to +10 Vdc, 0 to +10 Vdc (20 k Ω), 4 to 20 mA (250 Ω), 0 to 20 mA (250 Ω) Main speed reference: Pulse train input (max. 32 kHz)
	Starting Torque	150%/3 Hz (V/f Control and V/f Control with PG), 200%/0.3 Hz (Open Loop Vector Control), 200%/0 r/min (Closed Loop Vector Control, Closed Loop Vector Control for PM, and Advanced Open Loop Vector Control for PM), 100%/5% speed (Open Loop Vector Control for PM)
	Speed Control Range	1:1500 (Closed Loop Vector Control and Closed Loop Vector for PM) 1:200 (Open Loop Vector Control) 1:40 (V/f Control and V/f Control with PG) 1:20 (Open Loop Vector for PM) 1:100 (Advanced Open Loop Vector for PM)
	Speed Control Accuracy	± 0.2% in Open Loop Vector Control (25˚C ± 10˚C), 0.02% in Closed Loop Vector Control (25˚C±10˚C)
	Speed Response	10 Hz in Open Loop Vector (25˚C ± 10˚C), 50 Hz in Closed Loop Vector Control (25˚C ± 10˚C)
	Torque Limit	All Vector Control allows separate settings in four quadrants
	Accel/Decel Time	0.00 to 6000.0 s (4 selectable combinations of independent acceleration and deceleration settings)
	Braking Torque	Continuous regen. torque: approx. 20% (approx. 125% with dynamic braking resistor option: 10% ED,10s)
	V/f Characteristics	User-selected programs and V/f preset patterns possible
	Main Control Functions	Torque control, Droop control, Speed/torque control switching, Feed forward control, Zero-servo control, Momentary power loss ride-thru, Speed search, Overtorque detection, Torque limit, 17-step speed (max), Accel/decel time switch, S-curve accel/decel, 3-wire sequence, Auto-tuning (rotational, stationary), Dwell, Online tuning, Cooling fan on/off switch, Slip compensation, Torque compensation, Frequency jump, Upper/lower limits for frequency reference, DC in- jection braking at start and stop, Overexcitation braking, High slip braking, PID control (with sleep function), Energy saving control, MEMOBUS comm. (RS-485/422 max, 115.2 kbps), Fault restart, Application presets, DriveWorksEZ (customization function), Removable terminal block with parameter backup function etc.
Standards Compliant		• UL508C • IEC/EN61800-3, IEC/EN61800-5-1 • Two Safe Disable inputs and 1EDM output according to ISO/EN13849-1 Cat. 3 PLd, IEC/EN61508 SIL2
Protection Design		IP00 open-chassis, IP20 NEMA Type 1 enclosure
Ambient Temperature		-10 to 50 deg C; derating above 50 to 60 deg C at 2% per 1 deg C
Standard I/O		(8) multi-function digital inputs (24Vdc) (3) multi-function analog inputs (0 +/- 10 VDC, 4-20 mA) (1) multi-function pulse inputs (1) fault relay output (form C) (3) multi-function relay outputs (1 Relay, 2 Photocouplers) (2) multi-function analog outputs (0 +/- 10 VDC) (1) multi-function pulse outputs

Standard Specifications

General-Purpose

High Performance Vector Control GA700

CIPR – GA70 D 4 004 A B M A

GA700 Series

Design Revision Order

No.	Region Code
D	India
T	Asia (Singapore, Taiwan)

No.	Voltage Class
2	200V 3-Phase
4	400V 3-Phase

Output Current
Note: Indicates the rated output current of the Normal Duty rating rounded off to the nearest whole number.

No.	EMC Noise Filter
A	Standard
B	Internal EMC filter (C3)
C	Internal EMC filter (C2)

No.	Enclosure Type
B	IP20
F	IP20, UL Type 1

No.	Environmental Specification*
A	Standard
K	Gas
M	Humidity, dust
N	Oil
P	Moisture, dust, vibration
R	Gas, vibration
S	Shock, vibration
T	Oil, vibration

* Note: For details on 200V Class GA700 kindly contact nearest Yaskawa Representative

* Note: Drives with these specifications do not guarantee complete protection for the environmental conditions indicated.

400 V Class

Model CIPR-GA70 D4□□□			002	004	005	007	009	012	018	023	031	038	044	060	075	089	103
Max. Applicable Motor Capacity kW		HD	0.4	0.75	1.5	2.2	3.0	3.7	5.5	7.5	11	15	18.5	22	30	37	45
		ND	0.75	1.5	2.2	3.0	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55
Input	Rated Input Current A	HD	1.9	3.5	4.7	6.7	8.9	11.7	15.8	21.2	30.6	41.3	50.5	43.1	58.3	71.5	86.5
		ND	2.5	4.7	6.7	8.9	11.7	15.8	21.2	30.6	41.3	50.5	59.7	58.3	71.5	86.5	105
Output	Rated Output Current A	HD	1.8	3.4	4.8	5.5	7.2	9.2	14.8	18	24	31	39	45	60	75	91
		ND	2.1	4.1	5.4	7.1	8.9	11.9	17.5	23.4	31	38	44	59.6	74.9	89.2	103
	Overload Tolerance		• HD Rating: 150% of rated output current for 60 s • ND Rating: 110% of rated output current for 60 s Note: Derating may be required for applications that start and stop frequently.														
	Carrier Frequency		2 kHZ to 15 kHz (current deration required)														
	Max. Output Voltage		Three-phase 380 to 480 V Note: The maximum output voltage is proportional to the input voltage.														
	Max. Output Frequency		590 Hz The frequencies that can be set vary depending on the control mode used.														
Power	Rated Voltage/ Rated Frequency		• Three-phase AC power supply 380 V to 480 V 50/60 Hz • DC power supply 513 V to 679 V														
	Allowable Voltage Fluctuation		−15% to 10%														
	Allowable Frequency Fluctuation		±5%														
	Power Supply	HD	1.5	2.8	3.7	5.3	7.1	9.3	13	17	24	33	40	34	46	57	69
		ND	2.0	3.7	5.3	7.1	9.3	13	17	24	33	40	48	46	57	69	84

400 V Class

Model CIPR-GA70 D4□□□			140	168	208	250	296	371	389	453*1	568*1	675*1
Max. Applicable Motor Capacity kW		HD	55	75	90	110	132	160	200	220	250	315
		ND	75	90	110	132	160	200	220	250	315	355
Input	Rated Input Current A	HD	105	142	170	207	248	300	373	410	465	584
		ND	142	170	207	248	300	373	410	465	584	657
Output	Rated Output Current A	HD	112	150	180	216	260	304	371	414	453	605
		ND	140	168	208	250	296	371	389	453	568	675
	Overload Tolerance		• HD Rating: 150% of rated output current for 60 s • ND Rating: 110% of rated output current for 60 s Note: Derating may be required for applications that start and stop frequently.									
	Carrier Frequency		Derating the output current enables a maximum of 10 kHz to be set.					Derating the output current enables a maximum of 5 kHz to be set.				
	Max. Output Voltage		Three-phase 380 to 480 V Note: The maximum output voltage is proportional to the input voltage.									
	Max. Output Frequency		590 Hz The frequencies that can be set vary depending on the control mode used.									
Power	Rated Voltage/ Rated Frequency		• Three-phase AC power supply 380 V to 480 V 50/60 Hz • DC power supply 513 V to 679 V									
	Allowable Voltage Fluctuation		−15% to 10%									
	Allowable Frequency Fluctuation		±5%									
	Power Supply kVA	HD	84	113	136	165	198	239	297	327	370	465
		ND	113	136	165	198	239	297	327	370	465	523

*1: Standard modules are 6 pulse . 12 pulse modules are optional

	Items	Specifications
Control Characteristics	Control Method	The following controls are selected by parameters. • V/f Control • Closed Loop V/f Control • Open Loop Vector Control • Closed Loop Vector Control • Advanced Open Loop Vector Control • Open Loop Vector Control for PM • Advanced Open Loop Vector Control for PM • Closed Loop Vector Control for PM • EZ Open Loop Vector Control
	Maximum Output Frequency	• Advanced Open Loop Vector Control, EZ Open Loop Vector Control: 120 Hz • Closed Loop V/f Control, Closed Loop Vector Control, Advanced Open Loop Vector Control for PM, Closed Loop Vector Control for PM: 400 Hz • V/f Control, Open Loop Vector Control, Open Loop Vector Control for PM: 590 Hz
	Frequency Accuracy (Temperature Fluctuation)	Digital reference: within ±0.01% of the max. output frequency (-10°C to +40°C) Analog reference: within±0.1% of the max. output frequency (25°C±10°C)
	Frequency Setting Resolution	Digital reference: 0.01 Hz Analog reference: 1/2048 of the maximum output frequency setting (11 bit plus sign)
	Output Frequency Resolution	0.001 Hz
	Frequency Setting Resolution	Main frequency reference: -10 to +10 Vdc, 0 to 10 Vdc (20 k), 4 to 20 mA (250), 0 to 20 mA (250) Main speed reference: Pulse train input (max. 32 kHz)
	Starting Torque	• V/f Control: 150%/3 Hz • Closed Loop V/f Control: 150%/3 Hz • Open Loop Vector Control: 200%/0.3 Hz • Closed Loop Vector Control: 200%/0 min-1 • Advanced Open Loop Vector Control: 200%/0.3 Hz • Open Loop Vector Control for PM: 100%/5% speed • Advanced Open Loop Vector Control for PM: 200%/0 min-1 • Closed Loop Vector Control for PM: 200%/0 min-1 • EZ Open Loop Vector Control: 100%/1% speed
	Speed Control Range	• V/f Control 1:40 • Closed Loop V/f Control 1:40 • Open Loop Vector Control 1:200 • Closed Loop Vector Control 1:1500 • Advanced Open Loop Vector Control 1:200 • Open Loop Vector Control for PM 1:20 • Advanced Open Loop Vector Control for PM 1:100 • Closed Loop Vector Control for PM 1:1500 • EZ Open Loop Vector Control 1:100
	Zero Speed Control	Possible in Closed Loop Vector Control, Advanced Open Loop Vector Control for PM, and Closed Loop Vector Control for PM.
	Torque Limit	Parameter settings allow separate limits in four quadrants in Open Loop Vector Control, Closed Loop Vector Control, Advanced Open Loop Vector Control, Advanced Open Loop Vector Control for PM, Closed Loop Vector Control for PM, and EZ Open Loop Vector Control.
	Accel/Decel Time	0.0 s to 6000.0 s The drive allows four selectable combinations of independent acceleration and deceleration settings.
	Braking Torque	Approx. 20% Approx. 125% with a dynamic braking option • Continuous regenerative torque: Approx. 20%. Dynamic braking option allows for approx. 125%, 10% ED, 10 s
	Ambient Temperature	-10 to 50 deg C; derating above 50 to 60 deg C at 2% per 1 deg C
	Standard I/O	(8) multi-function digital inputs (24Vdc) (3) multi-function analog inputs (0 to 10VDC or -10VDC to +10VDC or 4-20mA) (1) multi-function pulse inputs (1) fault relay output (3) multi-function relay outputs (2) multi-function analog outputs (0 to 10VDC or -10VDC to +10VDC or 4-20mA) (1) multi-function pulse outputs
	V/f Characteristics	Select from 15 predefined V/f patterns, or a user-set V/f pattern.

Standard Specifications

General-Purpose

Advanced Vector Control Inverter Varispeed G7

CIMR (Inverter) G7 (G7 series) A 4 0P4 0

Specifications	
A	Japanese standard specifications

Voltage Class	
2	200V 3-Phase
4	400V 3-Phase

Max. Applicable Motor Output
0P4: 0.4 kW
〜
022: 22 kW
〜
300: 300 kW
("P" indicates a decimal point)

Protective Enclosure	
0	Open chassis type
1	Enclosed type

200 V Class

Model CIMR-G7A□□□□		20P4	20P7	21P5	22P2	23P7	25P5	27P5	2011	2015	2018	2022	2030	2037	2045	2055	2075	2090	2110
Max. Applicable Motor Capacity kW		0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110
Output	Rated Output Capacity kVA	1.2	2.3	3	4.6	6.9	10	13	19	25	30	37	50	61	70	85	110	140	160
Output	Rated Output Current A	3.2	6	8	12	18	27	34	49	66	80	96	130	160	183	224	300	358	415
Output	Max. Output Voltage	Three-phase, 200/208/220/230/240 V (proportional to input voltage)																	
Output	Max. Output Frequency	400 Hz by parameter settings																	
Power	Rated Voltage/Rated Frequency	Three-phase, 200/208/220/230/240 V, 50/60 Hz																	
Power	Allowable Voltage Fluctuation	− 15 to +10%																	
Power	Allowable Frequency Fluctuation	± 5%																	
Harmonic Suppression	DC Reactor	Optional									Standard								
Harmonic Suppression	12-pulse Input	Not available									Available								

400 V Class

Model CIMR-G7A□□□□		40P4	40P7	41P5	42P2	43P7	45P5	47P5	4011	4015	4018	4022	4030	4037	4045	4055	4075	4090	4110	4132	4160	4185	4220	4300
Max. Applicable Motor Capacity kW		0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	185	220	300
Output	Rated Output Capacity kVA	1.4	2.6	3.7	4.7	6.9	11	16	21	26	32	40	50	61	74	98	130	150	180	210	230	280	340	460
Output	Rated Output Current A	1.8	3.4	4.8	6.2	9	15	21	27	34	42	52	65	80	97	128	165	195	240	270	302	370	450	605
Output	Max. Output Voltage	Three-phase, 380/400/415/440/460/480 V (proportional to input voltage)																						
Output	Max. Output Frequency	400 Hz by parameter settings																						
Power	Rated Voltage/Rated Frequency	Three-phase, 380/400/415/440/460/480 V, 50/60 Hz																						
Power	Allowable Voltage Fluctuation	− 15 to +10%																						
Power	Allowable Frequency Fluctuation	± 5%																						
Harmonic Suppression	DC Reactor	Optional									Standard													
Harmonic Suppression	12-pulse Input	Not available									Available													

Common Specifications

Items		Specifications
Control Characteristics	Control Method	Sine wave PWM (Flux Loop Vector Control, Open Loop Vector Control 1 and 2, V/f Control, V/f with PG Control)
	Starting Torque	150% at 0.3 Hz (Open Loop Vector Control 2), 150% at 0 r/min (Loop Vector Control with PG)
	Speed Control Range	1: 200 (Open Loop Vector Control 2), 1: 1000 (Loop Vector Control with PG)
	Speed Control Accuracy	± 0.2%*9 (Open Loop Vector Control 2 at 25 ± 10˚C), ± 0.02% (Loop Vector Control at 25 ± 10˚C)
	Speed Response	10 Hz (Open Loop Vector Control 2), 40 Hz (Loop Vector Control with PG)
	Torque Limit	Vector Control allows separate settings in four quadrants.
	Torque Accuracy	± 5%
	Frequency Control Range	0.01 to 400 Hz
	Frequency Accuracy (Temperature Fluctuation)	Digital ref: ±0.01%, -10°C, Analog ref ±0.1%, 25°C ±10°C
	Frequency Setting Resolution	Digital ref: 0.01 Hz; Analog reference: 0.03/60 Hz (11 bit signed)
	Output Frequency Resolution	0.001 Hz
	Overload Tolerance	150% of rated output current for 1 min., 200% of rated output current for 0.5 s
	Frequency Setting Signal	− 10 to +10 V, 0 to 10 V, 4 to 20 mA, pulse train
	Accel/Decel Time	0.01 to 6000.0 s (4 selectable combinations of independent acceleration and deceleration settings)
	Braking Torque	Approx. 20% (approx. 125% with dynamic braking resistor option)
	Main Control Functions	Momentary power loss ride-thru, Speed search, Overtorque detection, Torque limit, 17-step speed (max), Accel/decel time switch, S-curve accel/decel, 3-wire sequence, Auto-Tuning (rotational, stationary), Dwell, Cooling fan on/off switch, Slip compensation, Torque compensation, Frequency jump, Frequency upper/lower limit settings, DC injection braking at start/ stop, High slip braking, PID control (with sleep function), Energy saving control, MEMOBUS communication (RS-485/422 max. 19.2 kbps), Fault restart, Parameter copy, Droop control, Torque control, Speed/torque control switching, Feedforward control, Zero-servo control.
Ambient Temperature		-10 to 60ºC; derating above 45 to 60ºC at 1.5% per 1ºC
Standard I/O		(12) multi-function digital inputs (3) multi-function analog inputs (1) multi-function pulse input (1) multi-function relay output (4) multi-function photo-coupler outputs (2) multi-function 0-10 VDC analog output (1) multi-function pulse output

Standard Specifications

Application Specific

Elevator Applications L1000A

CIMR L T 4 A 0009 F A A

- CIMR: Drive
- L: L1000A Series
- T: Region Code
- 4: Voltage Class
- A: Design Revision Order

No.	Region Code
B	China
T	Asia

No.	Voltage Class
2	200V 3-Phase
4	400V 3-Phase

No.	Customized Specifications
A	Standard model
F	Models in compliance with IEC/EN 61508 SIL3 Safety Integrity Level 3

No.	Enclosure Type
A	IP00
F	IP20/NEMA 1, UL Type 1

No.	Environmental Specification
A	Standard

200 V Class

Model CIMR-LT2A□□□□		0008	0011	0018	0025	0033	0047	0060	0075	0085	0115	0145	0180	0215	0283	0346	0415
Max. Applicable Motor Capacity kW		1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110
Output	Rated Output Capacity kVA	3	4.2	6.7	9.5	12.6	17.9	23	29	32	44	55	69	82	108	132	158
	Rated Output Current A	8	11	17.5	25	33	47	60	75	85	115	145	180	215	283	346	415
	Overload Tolerance	150% of rated output current for 60 s															
	Max. Output Voltage	Three-phase 200 to 240 V (proportional to input voltage)															
	Max. Output Frequency	120 Hz (user adjustable)															
Power	Rated Voltage/Rated Frequency	Three-phase 200 to 240 Vac 50/60 Hz 270 to 340 Vdc															
	Allowable Voltage Fluctuation	− 15 to +10%															
	Allowable Frequency Fluctuation	± 5%															

400 V Class

Model CIMR-LT4A□□□□		0005	0006	0009	0015	0018	0024	0031	0039	0045	0060	0075	0091	0112	0150	0180	0216
Max. Applicable Motor Capacity kW		1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110
Output	Rated Output Capacity kVA	3.7	4.2	7	11.3	13.7	18.3	24	30	34	48	57	69	85	114	137	165
	Rated Output Current A	4.8	5.5	9.2	14.8	18	24	31	39	45	60	75	91	112	150	180	216
	Overload Tolerance	150% of rated output current for 60 s															
	Max. Output Voltage	Three-phase AC 380 to 480 V (proportional to input voltage)															
	Max. Output Frequency	120 Hz (user adjustable)															
Power	Rated Voltage/Rated Frequency	Three-phase 380 to 480 Vac 50/60 Hz 540 to 680 Vdc															
	Allowable Voltage Fluctuation	− 15 to +10%															
	Allowable Frequency Fluctuation	± 5%															

Common Specifications

Items		Specifications
Control Characteristics	Control Method	V/f Control, Open Loop Vector Control, Closed Loop Vector Control, Closed Loop Vector Control for PM
	Frequency Control Range	0.01 to 120 Hz
	Frequency Accuracy (Temperature Fluctuation)	Digital reference: within ± 0.01% of the max. output frequency (− 10 to +40˚C) Analog reference: within ± 0.1% of the max. output frequency (25 ± 10˚C)
	Output Frequency Resolution	0.001 Hz
	Frequency Setting Resolution	Main frequency reference: − 10 to +10 Vdc (20 k Ω), 0 to +10 Vdc (20 k Ω), 4 to 20 mA (250 Ω), 0 to 20 mA (250 Ω)
	Starting Torque	150% / 3 Hz (V/f Control) 200% / 0 r/min (Closed Loop Vector Control) 200% / 0.3 Hz (Open Loop Vector Control) 200% / 0 r/min (Closed Loop Vector Control for PM)
	Speed Control Range	1 : 40 (V/f Control) 1 : 1500 (Closed Loop Vector Control) 1 : 200 (Open Loop Vector Control) 1 : 1500 (Closed Loop Vector Control for PM)
	Speed Control Accuracy	± 0.2% in Open Loop Vector Control (25 ± 10˚C), ±0.02% in Closed Loop Vector Control (25±10˚C)
	Speed Response	10 Hz in Open Loop Vector Control (25 ± 10˚C), 50 Hz in Closed Loop Vector Control (25±10˚C) (excludes temperature fluctuation when performing Rotational Auto-Tuning)
	Torque Limit	All vector control modes allow separate settings in four quadrants
	Accel/Decel Time	0.00 to 6000.0 s (4 selectable combinations of independent acceleration and deceleration settings)
	Braking Torque	Approximately 125% when using a braking resistor option
	V/f Characteristics	User-selected programs and V/f preset patterns possible
	Main Control Functions	Torque compensation at start (with or without sensors), Auto-Tuning (for motor and encoder offset), braking sequence, Feed Forward, Short Floor, Rescue Operation using back-up power supply, Light Load Direction Search, Removable Terminal Block with Parameter Backup...
Standards Compliant		• UL508C • IEC/EN61800-3, IEC/EN61800-5-1 • Two Safe Disable inputs and 1EDM output according to ISO/EN13849-1 Cat. 3 PLd, IEC/EN61508 SIL2
Protective Design		IP00 open-chassis
Ambient Temperature		-10 to 50ºC; derating above 50 to 60ºC at 2% per 1ºC
Standard I/O		(8) multi-function digital inputs (2) multi-function analog inputs (4) 1 fault relay and 3 multi function relays (2) multi-function photo-coupler outputs (2) multi-function 0-10 VDC analog output (2) Hardware baseblock

Standard Specifications

Energy-Saving Unit

Low Harmonics Regenerative Matrix Converter U1000

CIMR - U D 4 A 0011 A A A

Design Revision Order

U1000 Series

No.	Region Code
D	India

No.	Voltage Class
2	200V 3-Phase
4	400V 3-Phase

No.	Customized Specifications
A	Standard model
E	EMC Noise Filter Built-in
P	24 V Power Supply Unit Built-in
W	EMC Noise Filter and 24 V Power Supply Unit Built-in

Output Current A
Indicates the rated output current of the Normal Duty rating rounded off to the nearest whole number.

No.	Enclosure Type
A	IP00

Note: Compliant with UL Type 1 enclosure (Requires optional UL Type 1 kit.). Not available for models CIMR-UA4□0720 to 4□0930.

No.	Environmental Specification
A	Standard
K	Gas
M	Humidity, dust
N	Oil
P	Moisture, dust, vibration
S	Shock, vibration
T	Oil, vibration

Note: Contact Yaskawa representative for more on environmental specifications.

200 V Class

Model CIMR-UD □□□□□□			2□0028	2□0042	2 0054	2□0068	2□0081	2□0104	2□0130	2□0154	2□0192	2□0248
Rated Input/Output	Rated Input Current A	ND	25	38	49	62	74	95	118	140	175	226
		HD	20	25	38	49	62	74	95	118	140	175
	Rated Input Capacity kVA	ND	12	17	22	28	34	43	54	64	80	103
		HD	9	12	17	22	28	34	43	54	64	80
	Rated Output Current A	ND	28	42	54	68	81	104	130	154	192	248
		HD	22	28	42	54	68	81	104	130	154	192
	Overload Tolerance		HD Rating: 150% of rated output current for 60 s, ND Rating: 120% of rated output current for 60 s (Derating may be required for repetitive loads)									
	Carrier Frequency		4 kHz (User adjustable up to 10 kHz. Derating may be required.)									
	Max. Output Voltage		Proportional to input voltage (up to 240VAC)									
	Max. Output Frequency		400 Hz									
Power	Rated Voltage/Rated Frequency		Three-phase AC power supply: 200 to 240 Vac 50/60 Hz									
	Allowable Voltage Fluctuation		− 15 to +10%									
	Allowable Frequency Fluctuation		± 3% (Frequency fluctuation rate: 1 Hz/100 ms or less)									
	Allowable Power Voltage Imbalance between Phases		less than 2%									
Harmonic Current Distortion Rate			5% or less (IEEE 519) at rated load and speed									
Input Power Factor			0.98 or more (for rated load)									

400 V Class

Model CIMR-UD □□□□□□			4□0011	4□0014	4□0021	4□0027	4□0034	4□0040	4□0052	4□0065	4□0077	4□0096	4□0124	4□0156
Rated Input/Output	Rated Input Current A	ND	10	13	19	25	31	36	47	59	70	87	113	142
		HD	8.7	10	13	19	25	31	36	47	59	70	87	113
	Rated Input Capacity kVA	ND	9	12	17	22	28	33	43	54	64	80	103	130
		HD	8	9	12	17	22	28	33	43	54	64	80	103
	Rated Output Current A	ND	11	14	21	27	34	40	52	65	77	96	124	156
		HD	9.6	11	14	21	27	34	40	52	65	77	96	124

Model CIMR-UD □□□□□□			4□0180	4□0216	4□0240	4□0302	4□0361	4□0414	4□0477	4□0590	4□0720	4□0900	4□0930
Rated Input/Output	Rated Input Current A	ND	164	197	218	275	329	377	434	537	655	819	846
		HD	142	164	197	218	275	329	377	434	537	655	819
	Rated Input Capacity kVA	ND	150	180	200	251	300	344	396	490	598	748	773
		HD	130	150	180	200	251	300	344	396	490	598	748
	Rated Output Current A	ND	180	216	240	302	361	414	477	590	720	900	930
		HD	156	180	216	240	302	361	414	477	590	720	900
Rated output	Overload Tolerance		HD Rating: 150% of rated output current for 60 s, ND Rating: 120% of rated output current for 60 s (Derating may be required for repetitive loads)										
	Carrier Frequency		4kHz (User adjustable up to 6kHz. De-rating may be required)										
	Max. Output Voltage		Proportional to input voltage (up to 480VAC)										
	Max. Output Frequency		400 Hz										
Power	Rated Voltage/Rated Frequency		Three-phase AC power supply: 380 to 480 Vac 50/60 Hz										
	Allowable Voltage Fluctuation		− 15 to +10%										
	Allowable Frequency Fluctuation		± 3% (Frequency fluctuation rate: 1 Hz/100 ms or less)										
	Allowable Power Voltage Imbalance between Phases		less than 2%										
Harmonic Current Distortion Rate			5% or less (IEEE 519) at rated load and speed										
Input Power Factor			0.98 or more (for rated load)										

Items		Specifications
Control Characteristics	Control Method	V/f Control, V/f Control with PG, Open Loop Vector Control, Closed Loop Vector Control, Open Loop Vector Control for PM, Advanced Open Loop Vector Control for PM, Closed Loop Vector Control for PM
	Frequency Control Range	0.01 to 400 Hz
	Frequency Accuracy (Temperature Fluctuation)	Digital reference: within ± 0.01% of the max. output frequency (-10 to + 40˚C) Analog reference: within ± 0.1% of the max. output frequency (25 ± 10˚C)
	Frequency Setting Resolution	Digital reference: 0.01 Hz, Analog reference: 1/2048 of the maximum output frequency setting (11 bit plus sign)
	Output Frequency Resolution	0.001 Hz
	Frequency Setting Resolution	Main frequency reference: -10 to ±10 Vdc (20 kΩ), 0 to 10 Vdc (20 kΩ), 4 to 20 mA (250 Ω), 0 to 20 mA (250 Ω), Main speed reference: Pulse train input (max. 32 kHz)
	Starting Torque	V/f Control, V/f Control with PG 150%/3 Hz Open Loop Vector Control: 200% at 0.3 Hz Closed Loop Vector Control, Advanced Open Loop Vector Control, Closed Loop Vector Control for PM: 200% at 0 rpm Open Loop Vector Control for PM 100% at 3Hz
	Speed Control Range	V/f Control, V/f Control with PG: 1: 40 Open Loop Vector Control 1: 200 Closed Loop Vector Control, Closed Loop Vector Control for PM: 1: 1500 Open Loop Vector Control for PM: 1: 20 Advanced Open Loop Vector Control for PM: 1: 100
	Speed Control Accuracy	± 0.2% in Open Loop Vector Control (25 ± 10˚C), ± 0.02% in Closed Loop Vector Control (25 ± 10˚C)
	Speed Response	10 Hz in Open Loop Vector Control (25 ± 10˚C), 250 Hz in Closed Loop Vector Control (25 ± 10˚C)
	Torque Limit	Parameters setting allow separate limits in four quadrants (available in OLV, CLV, AOLV/PM, CLV/PM)
	Accel/Decel Time	0.00 to 6000.0 s (4 selectable combinations of independent acceleration and deceleration settings)
	Braking Torque	Same value as overload tolerance
	V/f Characteristics	User-selected programs and V/f preset patterns possible
	Main Control Functions	Torque Control, Droop Control, Speed/Torque Control switch, Feed Forward Control, Zero Servo Control, Momentary Power Loss Ride-Thru, Speed Search,Synchronous Transfer with Commercial Power Supply,Overtorque detection, torque limit, 17 Step Speed (max.), accel/decel time switch, S-curve accel/ decel, 3-wire sequence, Auto-Tuning (rotational, stationary),Dwell, cooling fan on/off switch, slip compensation, torque compensation, Frequency Jump, Upper/lower limits for frequency reference, DC Injection Braking at start and stop,High Slip Braking, PID control (with Sleep function), Energy Saving Control, MEMOBUS comm. (RS-485/422, max. 115.2 kbps), Fault Restart, Application Presets, DriveWorksEZ (customized functions), Removable Terminal Block with Parameter Backup, Online Tuning, Overexcitation Deceleration, Inertia (ASR) Tuning, High Frequency Injection, etc.
Standards Compliance		• UL508C • IEC/EN61800-3,IEC/EN61800-5-1 • ISO/EN13849-1 Cat.3 Ple,IEC/EN61508 SIL3
Protection Design		IP00 open-chassis, IP20 NEMA Type 1 enclosure
Ambient Temperature		-10 to 50 deg C; derating above 50 to 60 deg C at 2% per 1 deg C
Standard I/O		(8) multi-function digital inputs (3) multi-function analog inputs (1) multi-function pulse inputs (1) fault relay output (form C) (3) multi-function relay outputs (2) multi-function analog outputs (1) multi-function pulse outputs

Standard Specifications

Energy-Saving Unit

Power Regenerative Converter D1000

CIMR - D D 4 A 0030 A A A

- CIMR - : Energy-Saving Unit
- D : D1000 Series
- D : Region Code

No.	Region Code
T	Asia
D	India

- 4 : Voltage Class

No.	Voltage Class
2	200V 3-Phase
4	400V 3-Phase

- A : Customized Specifications

No.	Customized Specifications
A	Standard model

- 0030 : Rated Output Current — See Rating Table
- A : Enclosure Type

No.	Enclosure Type
A	IP00 open-chassis
B	IP20 open-chassis

- A : Design Revision Order
- A : Environmental Specification

No.	Environmental Specification
A	Standard
K	Gas-resistant
M	Humidity and dust-resistant
N	Oil Resistant
S	Vibration-resistant

Note: Contact a Yaskawa representative for more on environmental specifications.

D1000 Energy-saving Unit

Voltage			200 V Class								400 V Class											
Model CIMR-DD□A□□□□			0005	0010	0020	0030	0050	0065	0090	0130	0005	0010	0020	0030	0040	0060	0100	0130	0185	0270	0370	0630
Max. Applicable Motor Capacity kW			3.7	7.5	15	22	37	55	75	110	3.7	7.5	15	22	30	45	75	110	160	220	315	560
Output	Rated Output Capacity kVA		5	10	20	30	50	65	90	130	5	10	20	30	40	60	100	130	185	270	370	630
	Rated Output Current (DC) A		15	30	61	91	152	197	273	394	8	15	30	45	61	91	152	197	280	409	561	955
	Rated Input Current (AC) A		15	29	57	83	140	200	270	400	8	16	30	43	58	86	145	210	300	410	560	1040
	Rated Output Voltage		330 Vdc								660 Vdc											
Input	Rated Voltage/Rated Frequency		200 to 240 Vac 50/60 Hz								380 to 480 Vac 50/60 Hz											
	Allowable Voltage Fluctuation		− 15 to +10%																			
	Allowable Frequency Fluctuation		± 2%																			
	Control Method		Sine-wave PWM control																			
	Input Power Factor		Input power factor of 0.99 min. (for rated operation)																			
	Output Voltage Accuracy		± 5%																			
	Overload Protection		Unit stops after 60 s at 150% of rated output current or after 3 s at 200% of rated output current.																			
	Voltage Reference Range		300 to 360 Vdc								600 to 730 Vdc											
	Carrier Frequency		6 kHz				4 kHz				6 kHz						4 kHz			2 kHz		
	Main Control Functions		Torque limit, Cooling Fan on/off Switch, Removable Terminal Block with Parameter Backup Function, MEMOBUS/Modbus Comm. (RS-422/RS-485 max, 115.2 kbps)																			
Protection Functions	Momentary Overcurrent Protection		Unit stops when input current exceeds 200%.																			
	Fuse burnout		Operation stops if the fuse burns out.																			
	Overloads		Operation stops after 60 s at 150% of rated output current. Operation stops after 3 s at 200% of rated output current. (electrical operation and regeneration)																			
	Overvoltage Protection	Output	Stops when DC bus voltage exceeds approx. 410 Vdc								Stops when DC bus voltage exceeds approx. 820 Vdc											
		Input	Stops when input voltage exceeds approx. 227 Vac								Stops when input voltage exceeds approx. 554 Vac											
	Undervoltage Protection	Output	Stops when DC bus voltage falls below approx. 190 Vdc								Stops when DC bus voltage falls below approx. 380 Vdc											
		Input	Stops when input voltage falls below approx. 150 Vac								Stops when input voltage falls below approx. 300 Vac											
	Momentary Power Loss		Immediately stops after Momentary Power Loss is detected.																			
	Power Supply Frequency Fault		Operation stops for a deviation of ± 6 Hz or more from the rated input frequency.																			
	Heatsink Overheat Protection		Protection by thermistor																			
	Ground Fault Protectionn		Protection by electronic circuit																			
	Charge LED		Charge LED remains lit until DC Bus voltage goes below 50VDC																			
Environment	Area of Use		Indoors																			
	Ambient Temperature		-10 to 50 deg C; derating above 50 to 60 deg C at 2% per 1 deg C																			
	Humidity		95% RH or less (no condensation)																			
	Shock		10 to 20 Hz at 9.8 m/s2, 20 to 55 Hz at 5.9 m/s2 (2A0005 to 2A0050, 4A0005 to 4A0100) 10 to 20 Hz at 9.8 m/s2, 20 to 55 Hz at 2.0 m/s2 (2A0065 to 2A0130, 4A0130 to 4A0370) 10 to 20 Hz at 5.9 m/s2, 20 to 55 Hz at 2.0 m/s2 (4A0630)																			
	Storage Temperature		− 20 to +60°C (short-term temperature during transportation)																			
Protection Design			IP00/IP20/Open Type enclosure																			
Safety Standard			UL508C, IEC61800-5-1, IEC61800-3																			

D1000 Standard Configuration Devices

Voltage		200 V Class								400 V Class											
Model CIMR-DD□A□□□□		0005	0010	0020	0030	0050	0065	0090	0130	0005	0010	0020	0030	0040	0060	0100	0130	0185	0270	0370	0630
Harmonic Filter Module	Rated A Current	15	29	57	83	140	200	270	400	8	16	30	43	58	86	145	210	300	–	–	–
Input AC Reactor Output 1	Rated Current A	15	29	57	83	140	200	270	400	8	16	30	43	58	86	145	210	300	410	560	560
	Inductance mH	2.45	1.27	0.64	0.44	0.26	0.18	0.14	0.09	9.19	4.59	2.45	1.71	1.27	0.85	0.51	0.35	0.25	0.18	0.13	0.13
Input AC Reactor 2	Rated Current A	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	410	560	1140
	Inductance mH																		0.06	0.05	0.02
Reactor for Harmonic Filter	Rated Current A	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	64	87	177
	Inductance mH																		0.022	0.0158	0.0079
Condenser for Harmonic Filter	Rated μ F Capacity	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	290	402	800

Standard Specifications

Energy-Saving Unit

Power Regenerative Unit R1000

CIMR – R D 4 A 0105 F M A

CIMR – : YASKAWA Energy-Saving Unit

R : R1000 Series

D : Region Code

No.	Region Code
D	India

4 : Voltage Class

No.	Voltage Class
2	200V 3-Phase
4	400V 3-Phase

A : Customized Specifications

No.	Customized Specifications
A	Standard model

0105 : Three-Phase 200 V

No.	Regeneration Capacity (kW)
03P5	3.5
0005	5
0007	7
0010	10
0014	14
0017	17
0020	20
0028	28
0035	35
0053	53
0073	73
0105	105

Three-Phase 400 V

No.	Regeneration Capacity (kW)
03P5	3.5
0005	5
0007	7
0010	10
0014	14
0017	17
0020	20
0028	28
0035	35
0043	43
0053	53
0073	73
0105	105
0150	150
0210	210
0300	300

F : Enclosure Type

No.	Enclosure Type
A	IP00 open-chassis
F	IP20/UL Type1 enclosure panel

M : Environmental Specification

No.	Environmental Specification
A	Standard
K	Gas-resistant
M	Humidity and dust-resistant
S	Vibration-resistant

Note: Contact a Yaskawa for more on environmental specifications.

A : Design Revision Order

R1000 Energy-saving Unit

Voltage			200 V Class												400 V Class															
Model CIMR-R□R□□□□			03P5	0005	0007	0010	0014	0017	0020	0028	0035	0053	0073	0105	03P5	0005	0007	0010	0014	0017	0020	0028	0035	0043	0053	0073	0105	0150	0210	0300
Max. Applicable Motor Capacity kW			3.7	5.5	7.5	11	15	18.5	22	30	37	55	75	110	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	110	160	220	315
Rating	Rated Output Capacity kVA		3.5	5	7	10	14	17	20	28	35	53	73	105	3.5	5	7	10	14	17	20	28	35	43	53	73	105	150	210	300
	Rated Output Current (DC) A		14	20	27	41	55	68	81	112	138	207	282	413	7	11	15	22	30	36	43	58	73	89	109	149	217	320	440	629
	Rated Input Current (AC) A		10	15	20	30	41	50	60	83	102	153	209	306	5	8	11	16	22	27	32	43	54	66	81	110	161	237	326	466
Input	Rated Voltage/Rated Frequency		200 to 240Vac 50/60Hz												380 to 480Vac 50/60Hz															
	Allowable Voltage Fluctuation		-15 to + 10%																											
	Allowable Frequency Fluctuation		± 2%																											
Control	Control Method		120°excitation method																											
	Input Power Factor		0.9 min. (for rated load)																											
	Overload Protection		30 s at approx. 150% of rated current.																											
	Regenerative Torque		150% 30 s, 100% 25% ED 60 s, 80% continuous																											
	Main Control Functions		Cooling Fan on/off Switch,MEMOBUS/Modbus Comm. (RS-422/RS-485 max, 115.2 kbps)																											
Protection Functions	Momentary Overcurrent Protection		Operation stops for approx. 250% or higher of the rated power supply current.																											
	Fuse burnout		Operation stops if the fuse burns out.																											
	Overloads		Operation stops for 150% of the rated power supply current for 30 s.																											
	Overvoltage Protection	Output	Stops when DC bus voltage exceeds approx. 410 Vdc												Stops when DC bus voltage exceeds approx. 820 Vdc															
		Input	Stops when input voltage exceeds approx. 227 Vac												Stops when input voltage exceeds approx. 554 Vac															
	Undervoltage Protection	Output	Stops when DC bus voltage falls below approx. 190 Vdc												Stops when DC bus voltage falls below approx. 380 Vdc															
		Input	Stops when input voltage falls below approx. 150 Vac												Stops when input voltage falls below approx. 300 Vac															
	Momentary Power Loss		Immediately stops after Momentary Power Loss is detected.																											
	Power Supply Frequency Fault		Operation stops for a deviation of ± 6 Hz or more from the rated input frequency.																											
	Heatsink Overheat Protection		Protection by thermistor																											
	Ground Fault Protectionn		Protection by electronic circuit																											
	Charge LED		Charge LED remains lit until DC bus has fallen below approx. 50 V																											
Environment	Area of Use		Indoors																											
	Ambient Temperature		-10 to 50 deg C; derating above 50 to 60 deg C at 2% per 1 deg C																											
	Humidity		95% RH or less (no condensation)																											
	Shock		(2A03P5 to 2A0053, 4A03P5 to 4A0073)10 to 20 Hz: 9.8 m/s^2, 20 to 55 Hz: 5.9 m/s^2 (2A0073 to 2A0105, 4A0105 to 4A0300)10 to 20 Hz: 9.8 m/s^2, 20 to 55 Hz: 2.0 m/s^2																							
	Storage Temperature		− 20 to +60°C (short-term temperature during transportation)																											
Protection Design			Open Type enclosure (IP00) Enclosed Wall-Mounted [NEMA Type1(IP20)]																											
Safety Standard			UL508C, IEC/EN61800-5-1, IEC/EN61800-3																											

R1000 Standard Configuration Devices

Voltage		200 V Class													400 V Class															
Model CIMR-RA□R□□□□		03P5	0005	0007	0010	0014	0017	0020	0028	0035	0053	0073	0105	03P5	0005	0007	0010	0014	0017	0020	0028	0035	0043	0053	0073	0105	0150	0210	0300
Power Coordinating Reactor	Rated Current A	20	30	40	60	80	90	120	160	200	280	360	500	10	15	20	30	40	50	60	80	90	120	150	200	250	330	490	660
	Inductance mH	0.53	0.35	0.265	0.18	0.13	0.12	0.09	0.07	0.05	0.038	0.026	0.02	2.2	1.42	1.06	0.7	0.53	0.42	0.36	0.26	0.24	0.18	0.15	0.11	0.09	0.06	0.04	0.03
Current Suppression Reactor	Rated Current A	15	15	20	40	40	50	60	80	100	153	209	306	7.5	7.5	10	15	25	25	30	40	50	60	75	100	161	237	326	466
	Inductance mH	0.31	0.31	0.15	0.1	0.1	0.06	0.05	0.04	0.03	0.02	0.015	0.01	1.2	1.2	0.6	0.4	0.3	0.3	0.2	0.15	0.12	0.1	0.08	0.06	0.04	0.03	0.02	0.013
Fuse	Rated Current A	20	25	32	50	63	80	100	125	160	200	350	500	16	16	16	25	40	40	50	63	80	100	125	160	250	350	500	630

HHP Modular Drives

HHP Modular Drives are regenerative type and non-regenerative type. Ordering code for both regenerative and non-regenerative types depend on Type of Configuration, Voltage Class and Current Rating. Kindly refer HHP Brochure for more details.

Stand Alone System (Non-Regenerative System)

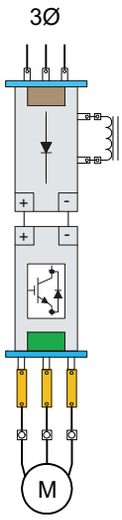
This configuration is a combination of both rectifiers and inverters. All the inverter outputs are connected to a single motor via output choke. Ordering Coder represents the Inverter current rating. First letter of ordering code is 'A'.

Ordering Code: **CIMR - A D 4 H 2250 A**

Rectifier Modules (Non-Regenerative System)

These are normal non-regenerative rectifier modules of 12 Pulse or 6 Pulse configuration. Ordering Code represents, rectifier current ratings. First letter of ordering code is 'N'.

Ordering Code: **CIMR - N D 4 H 1992 A**



Stand-Alone System

Inverter Modules

These are normal inverter modules. Ordering Code represents inverter current ratings. First letter of ordering code is 'I'. This inverter module is common for both regenerative system and non regenerative system.

Ordering Code: **CIMR - I D 4 H 2250 A**

Rectifier Modules (Regenerative system)

These are regenerative rectifiers modules (without Pre-Charge Circuit). Pre-Charge circuit should be ordered separately based on the rectifier rating. Ordering code represents rectifier current rating. First letter of ordering code is 'D'.

Ordering Code: **CIMR - D D 4 H 2250 A**

Stand-Alone System

CIMR – A D 4 H 2250 A

Code	Description	
CIMR	Drive	
A	**System Configuration:** Stand Alone System – Comprises of rectifiers and inverters. All inverters are connected to single motor via output choke.	
D	**Country Code:** India	
4	**Voltage Class:** 4 – 480V 6 – 575V/690V	
H	HHP Series	
2250	**Inverter Current Rating (ND):**	
	466A 900A 1350A	1800A 2250A
A	**Customized Specification:** A – 6 Pulse Rectifier B – 12 Pulse Rectifier	

Inverter*

CIMR - I D 4 H 2250 A

Code	Description	
CIMR	Drive	
I	**System Configuration:** Non-Regenerative Inverter – Inverter modules alone	
D	**Country Code:** India	
4	**Voltage Class:** 4 – 480V 6 – 575V/690V	
H	HHP Series	
2250	**Inverter Current Rating (ND):**	
	466A 900A 1350A	1800A 2250A
A	Revision Code	

* This inverter is common for both Regenerative System & Non-Regenerative System

Non-Regenerative Rectifier

CIMR - N D 4 H 1992 A

Code	Description	
CIMR	Drive	
N	**System Configuration:** Non-Regenerative Rectifier – Rectifier modules alone	
D	**Country Code:** India	
4	**Voltage Class:** 4 – 480V 6 – 575V/690V	
H	HHP Series	
1992	**Rectifier Current Rating (ND):**	
	1169A	1992A
A	**Customized Specification:** A – 6 Pulse Rectifier B – 12 Pulse Rectifier	

Regenerative Rectifier

CIMR - D D 4 H 2250 A

Code	Description	
CIMR	Drive	
D	**System Configuration:** Regenerative Rectifier*1 – Rectifier modules alone	
D	**Country Code:** India	
4	**Voltage Class:** 4 – 480V 6 – 575V/690V	
H	HHP Series	
2250	**Rectifier Current Rating (ND):**	
	466A 900A 1350A	1800A 2250A
A	Revision Code	

*1: Pre-charge module should be ordered separately

Quality Service for the Robust Drives

Introduction

YASKAWA is one of the world's largest manufacturers of AC Inverter Drives, Servo and Motion Control, and Robotics Automation Systems. Since 1915, YASKAWA Electric has served the world needs for products to improve global productivity through Automation.

In order to engage in business with its own technology, the company established a creed of "becoming a technology-centered company," proposed the concept of "mechatronics," ahead of the rest of the world, and has maintained quality-first management with the determination to develop the world's first-in-class and revolutionary technologies and products. Our business hubs are located in 31 countries around the world including Japan, and the production bases are located in 12 countries. We operate a Global Business which is adapted to each region's characteristics. We are further strengthening our global footprints developing technologies on Mechatronics, Humatronics and Clean Power while retaining our core specialization in Motion Control Technology.

We will continue to evolve technology and contribute to the development of the world through new solutions.

YASKAWA's Journey in India began with PLC busines in 1980 and AC drives Business in 1990 and steadily expanded to accommodate growing customer needs. Today, our operation spans the length and breadth of the country.

YASKAWA's service wing is equipped with a state-of-the-art repair centers at our Bengaluru and Gurugram facilities. We have grown ever since with our own team of Service and appointment of Authorised Service Centers (23 and still adding) spreading across India, to cater the Service needs of the customer "ON DEMAND".

Service Profile

How can industries master the challenges in order to be globally competitive and succeed in the world of globalization?

From Industries to Commercial Buildings to Residential Complexes, our Goal is to keep the processes and equipment running in the most Energy Efficient, Cost Effective and Troublefree condition.

Challenges faced by customers today:
- Low Reliability of the equipments
- Escalating Operation and Capital costs to keep the Processes and Equipment Running
- Rising Energy Prices
- Need to Improve Productivity
- Product Life Cycle Optimization
- Reach and Response of the Supplier

Answering the challenges - YASKAWA way:
- Reliable and High Quality products understanding customer's requirement and environment
- Our products are known for their Energy efficiency with special functions for optimizing energy consumption
- Lifetime relationship contract with our customers in terms of AMC
- Access to YASKAWA is made simple and Quick by Hotline Number and "Service Quick" Web Link
- Study of existing system and provide options of retrofit with assurance of Reliability, increase in Productivity and Energy Efficiency

The customized services offered for YASKAWA's D&M&C Products span the entire value chain and life cycle - from identification of technical issue to retrofit solution.

The benefits of using YASKAWA's Services are High Reliability, Low Operational Costs and Improved Productivity.

Adding Value at Each Level With Our Technical Expertise

Online technical support – online support enables access to information on all products

1. Fastest way to get information on parameters, configuration etc
2. Support through 24/7 toll free number 1800-102-3699
3. Direct access to the YASKAWA Technical Team for expert solutions from pre-sales to post sales
4. Service Quick (service.yaskawaindia.in)

Field Service

1. Installation and Commissioning support using the latest software tools
2. On-site repairs with expertise to carry out failure and power analysis
3. Expert advice on the optimization of operation maintenance of the products/ systems
4. Excellent resolution time of less than 48 hrs across all locations

Annual Maintenance Contract (AMC)

The heart of a Product Life Cycle is the support given during Operations & Maintenance phase. YASKAWA provides the best support with “Maintenance Assessment Tool” as the basis for selecting the right contract.

- Non-Comprehensive contract

Spare Parts

No service is complete without offering spare parts. YASKAWA through its global ERP system delivers the spare parts from any of its global warehouses. We offer spare parts for products up to 10 years.

1. Provides genuine spare parts at competitive price
2. Warranty on spare parts
3. Excellent storage conditions, transportation, order management and delivery

Repair Center

YASKAWA has full fledged repair centres in Bangalore and Gurugram capable of repairing all Drives and Motion & Control products.

1. Tests are carried in accordance with YASKAWA’s Global Processes and Quality Standards
2. Load testing facility
3. Reconditioning of products which work in extreme environments with limited warranty
4. Detailed repair reports
5. Pan India network of Authorized Service Centers
6. Repair turn around time (TAT) of less than 3 days

Upgrade & Retrofit

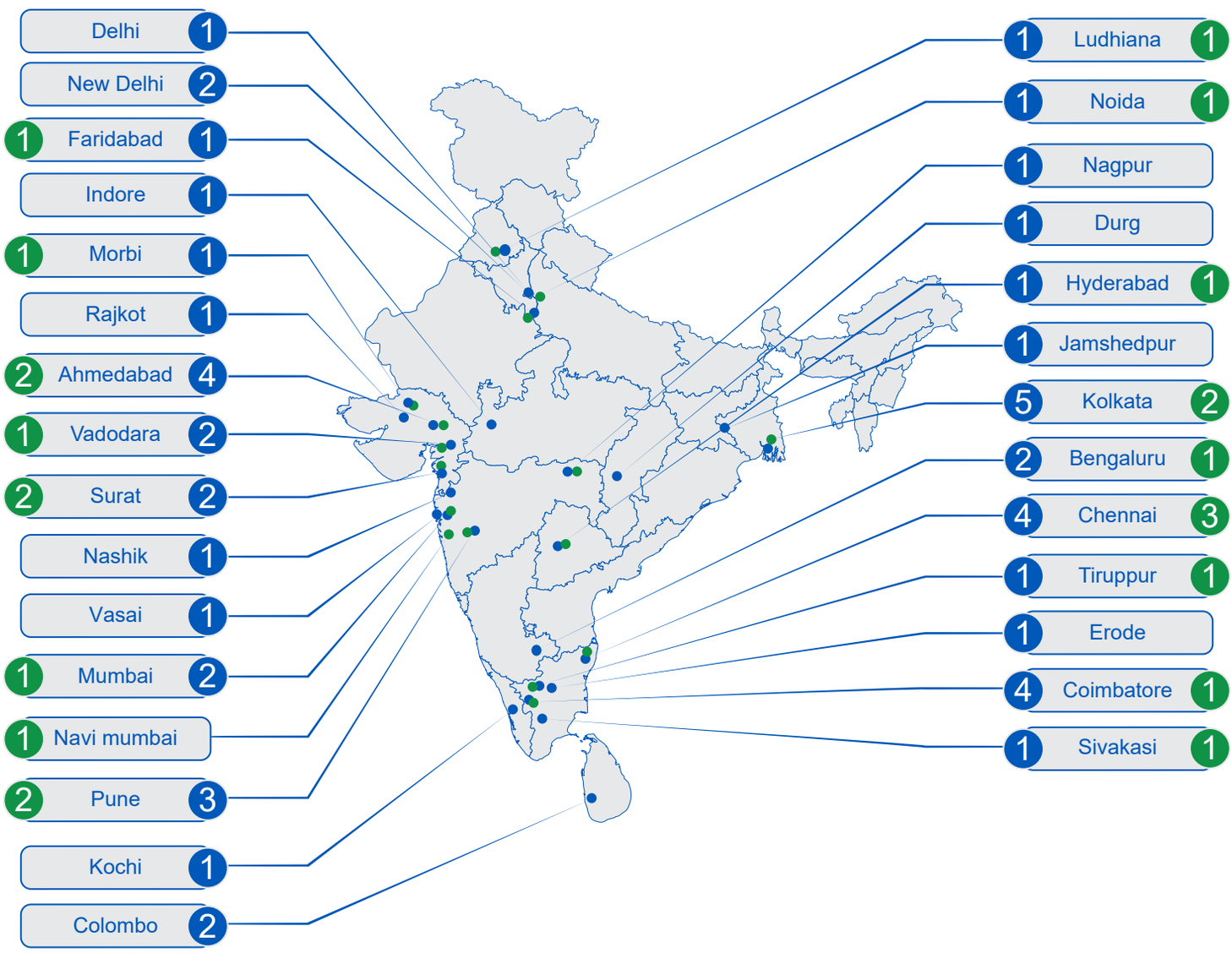
1. Offers the latest Software and Hardware upgrades for maximized Return On Investment
2. Improve the performance and extend the functionality of the equipment
3. Offers complete Retrofit and Engineering solutions with the High Tech Products
4. Quick and tailored solution which does not require a long shut down during the Retrofit Solutions

Training

1. Provides Basic and Expert Level Training on Drives and Motion & Control products with highly Skilled and Experienced Trainers
2. In house demo kits for Hands on Training
3. Application center with all facilities for program simulation and field bus communication testing
4. Customized training as per requirement

Notes:

YASKAWA's Network in India



Authorized Service Centers 23 49 Authorized Business Partners

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