Standard Specifications

R1000 Energy-saving Unit

Voltage			200 V Class												400 V Class															
Model CIMR-RA*A			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	Regeneration Capacity kW		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 Characteristics	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 Protection *2		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 +40°C (Enclosed Wall-Mounted (NEMA Type1)), −10 to +50°C (Open Type enclosure (IP00))																											
	Humidity		95% RH or less (no condensation)																											
	Shock		(2A03P5 to 2A0053, 4A03P5 to 4A0073)10 to 20 Hz : 9.8 m/s², 20 to 55 Hz : 5.9 m/s² (2A0073 to 2A0105, 4A0105 to 4A0300)10 to 20 Hz : 9.8 m/s², 20 to 55 Hz : 2.0 m/s²																											
	Storage Temperature		−20 to +60°C (short-term temperature during transportation)																											
	Altitude		Up to 1000 meters (derating required at altitudes from 1000 to 3000 m)																											
Protection Design			Open Type enclosure (IP00) Enclosed Wall-Mounted (NEMA Type1 (IP20)) *4																											
Safety Standard *3			UL508C, IEC/EN61800-5-1, IEC/EN61800-3																											

*1 : This number indicates the voltage class (2: 200 V class, 4: 400 V class).
*2 : Protection may not be provided under the following conditions as the motor windings are grounded internally during run:
・Low resistance to ground from the drive cable or terminal block.
・Drive already has a short-circuit when the power is turned on.
*3 : Application pending.
*4 : IP20 protection applies if the top cover is removed from a NEMA Type1 Unit (CIMR-RA2A03P5 to CIMR-RA2A0028 or CIMR-RA4A03P5 to CIMR-RA4A0028).
Note: The CIMR-RA2A0105 and CIMR-RA4A0210 to CIMR-RA4A0300 are in preparation.

R1000 Standard Configuration Devices

Voltage		200 V Class													400 V Class															
Model CIMR-RA*A		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

* : This number indicates the voltage class (2: 200 V class, 4: 400 V class).
Note: The CIMR-RA2A0105 and CIMR-RA4A0210 to CIMR-RA4A0300 are in preparation.

R1000 Capacity Selection

Easy Selection

The recommended R1000 models are given in the following table.

200 V Class

Motor Capacity (kW) / Drive Capacity (kW)		3.7 or less	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110
R1000 Mode CIMR-RA2A □□□□	03P5	●	–	–	–	–	–	–	–	–	–	–	–	–	–
	0005	–	●	–	–	–	–	–	–	–	–	–	–	–	–
	0007	–	–	●	–	–	–	–	–	–	–	–	–	–	–
	0010	–	–	–	●	–	–	–	–	–	–	–	–	–	–
	0014	–	–	–	–	●	–	–	–	–	–	–	–	–	–
	0017	–	–	–	–	–	●	–	–	–	–	–	–	–	–
	0020	–	–	–	–	–	–	●	–	–	–	–	–	–	–
	0028	–	–	–	–	–	–	–	●	–	–	–	–	–	–
	0035	–	–	–	–	–	–	–	–	●	–	–	–	–	–
	0053	–	–	–	–	–	–	–	–	–	●	●	–	–	–
	0073	–	–	–	–	–	–	–	–	–	–	–	●	–	–
	0105*	–	–	–	–	–	–	–	–	–	–	–	–	●	●

400 V Class

Motor Capacity (kW) / Drive Capacity (kW)		3.7 or less	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	185	220	315
R1000 Mode CIMR-RA4A □□□□	03P5	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	0005	–	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	0007	–	–	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	0010	–	–	–	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	0014	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	0017	–	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–	–	–	–
	0020	–	–	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–	–	–
	0028	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–	–
	0035	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–
	0043	–	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–	–	–
	0053	–	–	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–	–
	0073	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–
	0105	–	–	–	–	–	–	–	–	–	–	–	–	●	●	–	–	–	–	–
	0150	–	–	–	–	–	–	–	–	–	–	–	–	–	–	●	●	–	–	–
	0210*	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	●	●	–
	0300*	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	●

*: Available soon.

Optimum Selection

Depending on the amount of regenerated energy, you can select an R1000 with a smaller capacity than the drive. Use the DriveSelect Inverter Capacity Selection Program to make the selection.
You can download the application for free from Yaskawa's product and technical information website (http://www.e-mechatronics.com/en/).

Model Number Key

CIMR- R A 2 A 0105 A A A

YASKAWA Energy-Saving Unit R1000 Series — Design Revision Order

No.	Region Code
A	Japan

No.	Voltage Class
2	3-phase, 200-240 Vac
4	3-phase, 380-480 Vac

No.	Customized Specifications
A	Standard model

No.	Enclosure Type
A	IP00 open-chassis
F	NEMA Type 1 enclosure panel

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

Note: Contact a Yaskawa for more on environmental specifications.

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