

Power regenerative converter D1000

D1000 Energy-saving Unit

Catalog No. KAEP C710656 03

Voltage		200 V Class								400 V Class											
Model CIMR-DA-□□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
Rating	Rated Output Capacity*2 kW	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
Input	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											
Control Characteristics	Rated Voltage/Rated Frequency	200 to 240 Vac 50/60 Hz								380 to 480 Vac 50/60 Hz											
	Allowable Voltage Fluctuation	-15 to +10%																			
Protection Functions	Allowable Frequency Fluctuation	±2%																			
	Control Method	Sine-wave PWM control																			
Environment	Input Power Factor	Input power factor of 0.99 min. (for rated operation)																			
	Output Voltage Accuracy	±5%																			
Protection Functions	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											
Protection Functions	Carrier Frequency	6 kHz				4 kHz				6 kHz				4 kHz				2 kHz			
	Main Control Functions	Current Limit, Cooling Fan on/off Switch, Removable Terminal Block with Parameter Backup Function, MEMOBUS/Modbus (RTU mode) Communications (RS-422/RS-485 max, 115.2 kbps)																			
Protection Functions	Momentary Overcurrent Protection	Unit stops when input current exceeds 250%.																			
	Fuse burnout	Operation stops if the fuse burns out.																			
Protection Functions	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										
Protection Functions	Undervoltage Protection	Input	Stops when input voltage exceeds approx. 227 Vac								Stops when input voltage exceeds approx. 554 Vac										
	Overvoltage Protection	Output	Stops when DC bus voltage falls below approx. 190 Vdc								Stops when DC bus voltage falls below approx. 380 Vdc										
Protection Functions	Undervoltage Protection	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.																			
Protection Functions	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																			
Protection Functions	Ground Fault Protection*3	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°C (IP00/IP20/Open Type enclosure)																			
Environment	Humidity	95% RH or less (no condensation)																			
	Shock	(2A0005 to 2A0050, 4A0005 to 4A0100) 10 to 20 Hz : 9.8 m/s ² , 20 to 55 Hz : 5.9 m/s ² (2A0065 to 2A0130, 4A0130 to 4A0370) 10 to 20 Hz : 9.8 m/s ² , 20 to 55 Hz : 2.0 m/s ² (4A0630) 10 to 20 Hz : 5.9 m/s ² , 20 to 55 Hz : 2.0 m/s ²																			
Environment	Storage Temperature	-20 to +60°C (short-term temperature during transportation)																			
	Altitude	Up to 1000 meters (derating required at altitudes from 1000 m to 3000 m)																			
Protection Design		IP00/IP20/Open Type enclosure																			
Safety Standard		UL508C, IEC61800-5-1, IEC61800-3																			

*1: This number indicates the voltage class (2: 200 V class, 4: 400 V class).

*2: For the 200 V class, rated output capacity is calculated with a rated output voltage of 220 V. For the 400 V class, values are given for an input voltage of 440 V.

*3: 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.

Note: You must install a harmonic filter module and input AC reactor 1 for a D1000 of 5 to 185 kW.

You must install a reactor for the harmonic filter, a capacitor for the harmonic filter, and input AC reactors 1 and 2 for a D1000 of 270 to 630 kW.

D1000 Standard Configuration Devices

Voltage		200 V								400 V											
Model CIMR-DA-□□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 Current A	15	29	57	83	140	200	270	400	8	16	30	43	58	86	145	210	300	-	-	-
Input AC Reactor 1	Rated Current A	15	29	57	83	140	200	270	400	8	16	30	43	58	86	145	210	300	410	560	560
Input AC Reactor 2	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
	Inductance mH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	410	560	1140
Reactor for Harmonic Filter	Rated Current A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64	87	177
	Inductance mH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.022	0.0158	0.0079
Condenser for Harmonic Filter	Rated Capacity μF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	290	402	800

*1: This number indicates the voltage class (2: 200 V class, 4: 400 V class).

Note: CIMR-DA-□□4A0630 requires two units of input AC reactor 1.