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CIMR-A

A1000



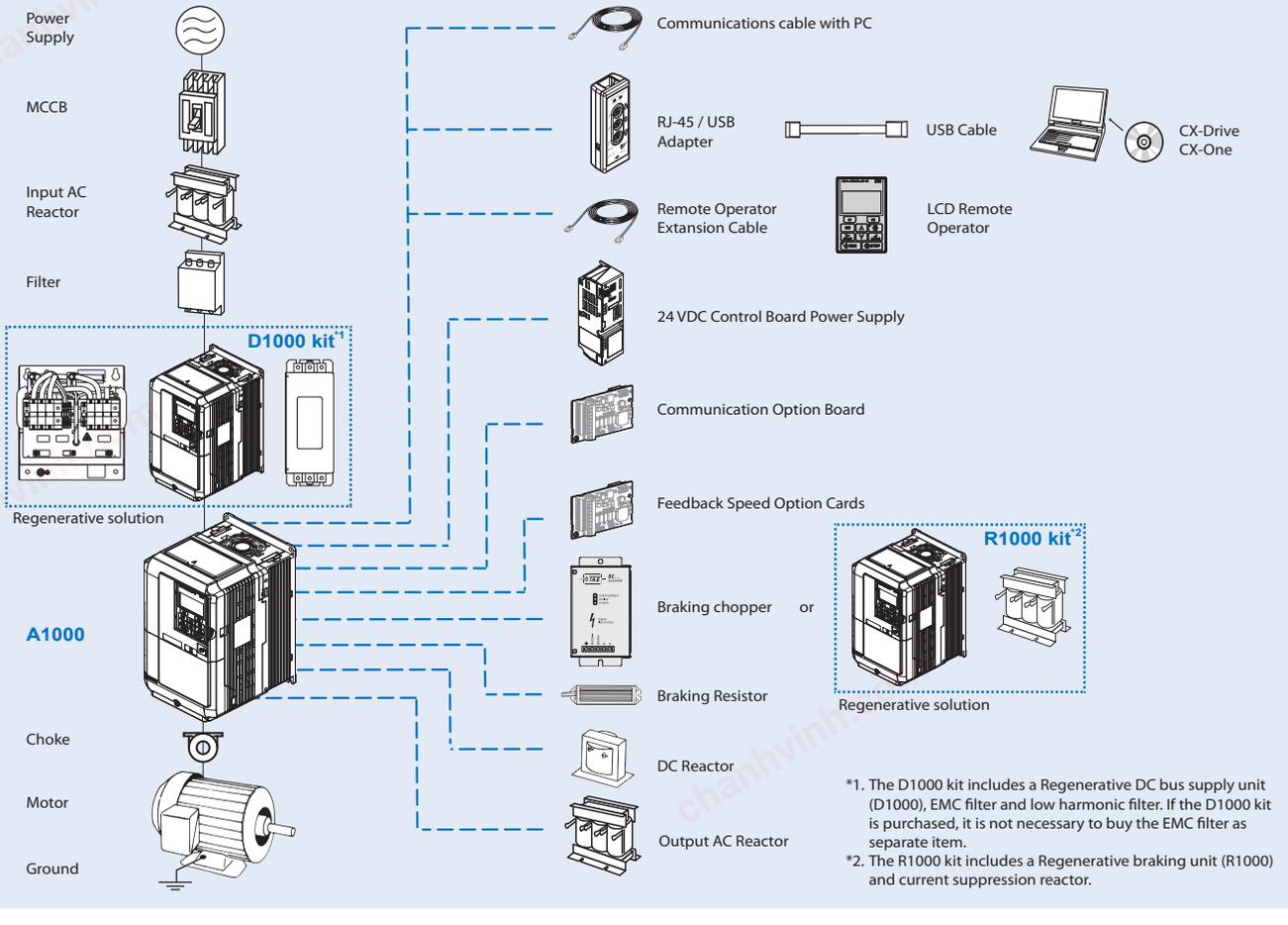
High performance Vector Control

- Current vector control, with or without PG
- High starting torque (200% / 0.3 Hz, spd range 1:200 OLV), (200% at 0 r/min, spd range 1:1500 CLV)
- Double rating ND 120%/1min and HD 150%/1 min
- Advanced Auto-Tuning for IM & PM Motors
- Open Loop Control of PM Motors
- Low-noise Low carrier technology
- 10 years lifetime design
- Screw-less terminals
- Control Terminals with memory backup
- 24 VDC control board power supply option
- Fieldbus communications: Modbus, Profibus, CANopen, DeviceNet, ML-II, PROFINET, EtherCAT and EtherNet/IP
- Safety embedded: EN954-1 safety cat. 3, stop category 0, IEC EN 61508 SIL 2 and EN61800-5-1 with EDM
- Regenerative solutions as option
- CE, UL, cUL and TUV

Ratings

- 200 V Class three-phase 0.55 to 110 kW
- 400 V Class three-phase 0.55 to 630 kW

System configuration



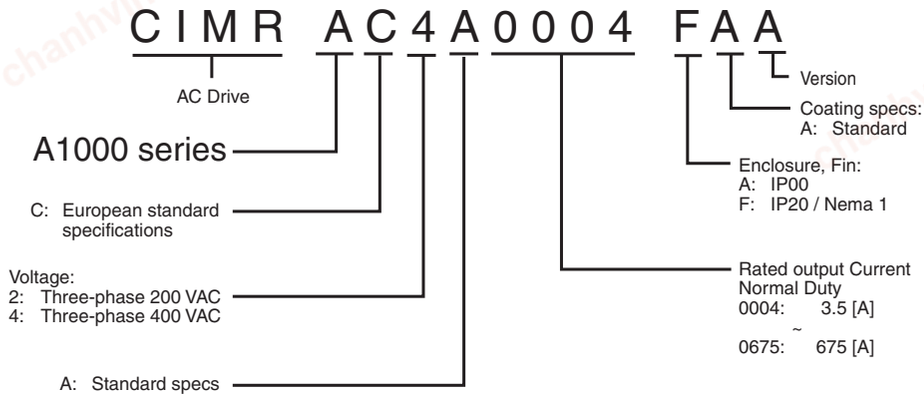
*1. The D1000 kit includes a Regenerative DC bus supply unit (D1000), EMC filter and low harmonic filter. If the D1000 kit is purchased, it is not necessary to buy the EMC filter as separate item.
*2. The R1000 kit includes a Regenerative braking unit (R1000) and current suppression reactor.

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Specifications

Type designation



200 V class

Three-phase: CIMR-A□2A		0004	0006	0010	0012	0021	0030	0040	0056	0069	0081	0110	0138	0169	0211	0250	0312	0360	0415
Motor kW[1]	For HD setting	0.55	1.1	1.5	2.2	4.0	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110
	For ND setting	0.75	1.1	2.2	3.0	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	110
Output characteristics	Inverter capacity kVA at HD[2]	1.2	1.9	3	4.2	6.7	9.5	12.6	17.9	23	29	32	44	55	69	82	108	132	158
	Inverter capacity kVA at ND[2]	1.3	2.3	3.7	4.6	8	11.4	15.2	21	26	31	42	53	64	80	95	119	137	158
	Rated output current (A) at HD	3.2[4]	5[4]	8[4]	11[4]	17.5[4]	25[4]	33[4]	47[4]	60[4]	75[4]	85[4]	115[4]	145[5]	180[5]	215[5]	283[5]	346[5]	415[3]
	Rated output current (A) at ND[3]	3.5	6	9.6	12	21	30	40	56	69	81	110	138	169	211	250	312	360	415
	Max. output voltage	Proportional to input voltage: 0..240 V																	
	Max. output frequency	400 Hz																	
Power supply	Rated input voltage and frequency	3-phase 200..240 V 50/60 Hz																	
	Allowable voltage fluctuation	-15%..+10%																	
	Allowable frequency fluctuation	+5%																	
	Input Current (A) at HD[6]	2.9	5.8	7.5	11	18.9	28	37	52	68	80	82	111	136	164	200	271	324	394
	Input Current (A) at ND[6]	3.9	7.3	10.8	13.9	24	37	52	68	80	96	111	136	164	200	271	324	394	471

1. Based on a standard 4-pole motor for maximum applicable motor output.
2. Rated Motor Capacity is calculated with a rated output voltage of 220 V.
3. Carrier frequency is set to 2kHz. Current derating is required in order to raise the carrier frequency.
4. Carrier frequency can be increased up to 8 kHz while keeping this current rating. Higher carrier frequency settings require derating.
5. Carrier frequency can be increased up to 5 kHz while keeping this current rating. Higher carrier frequency settings require derating.
6. Assumes operation at rated output current. Input current rating varies depending on the power supply transformer, input reactor, wiring conditions, and power supply impedance.

400 V class

Three-phase: CIMR-A□4A		0002	0004	0005	0007	0009	0011	0018	0023	0031	0038	0044	0058	0072
Motor kW[1]	For HD setting	0.55	1.1	1.5	2.2	3.0	4.0	5.5	7.5	11	15	18.5	22	30
	For ND setting	0.75	1.5	2.2	3.0	4.0	5.5	7.5	11	15	18.5	22	30	37
Output characteristics	Inverter capacity kVA at HD[2]	1.4	2.6	3.7	4.2	5.5	7	11.3	13.7	18.3	24	30	34	48
	Inverter capacity kVA at ND[2]	1.6	3.1	4.1	5.3	6.7	8.5	13.3	17.5	24	29	34	44	55
	Rated output current (A) at HD	1.8[4]	3.4[4]	4.8[4]	5.5[4]	7.2[4]	9.2[4]	14.8[4]	18[4]	24[4]	31[4]	39[4]	45[4]	60[4]
	Rated output current (A) at ND[3]	2.1	4.1	5.4	6.9	8.8	11.1	17.5	23	31	38	44	58	72
	Max. output voltage	380..480V (proportional to input voltage)												
	Max. output frequency	400 Hz												
Power supply	Rated input voltage and frequency	3-phase 380..480 VAC, 50/60 Hz												
	Allowable voltage fluctuation	-15%..+10%												
	Allowable frequency fluctuation	+5%												
	Input Current (A) at HD[6]	1.8	3.2	4.4	6	8.2	10.4	15	20	29	39	44	49	58
	Input Current (A) at ND[6]	2.1	4.3	5.9	8.1	9.4	14	20	24	38	44	52	58	71

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Three-phase: CIMR-A□4A		0088	0103	0139	0165	0208	0250	0296	0362	0414	0515	0675	0930	1200
Motor kW[1]	For HD setting	37	45	55	75	90	110	132	160	185	220	315	450	560
	For ND setting	45	55	75	90	110	132	160	185	220	250	355	500	630
Output characteristics	Inverter capacity kVA at HD[2]	57	69	85	114	137	165	198	232	282	343	461	617	831
	Inverter capacity kVA at ND[2]	67	78	106	126	159	191	226	276	316	392	514	709	915
	Rated output current (A) at HD	75[4]	91[4]	112[5]	150[5]	180[5]	216[5]	260[5]	304[3]	370	450	605	810	1090
	Rated output current (A) at ND[3]	88	103	139	165	208	250	296	362	414	515	675	930	1200
	Max. output voltage	380..480V (proportional to input voltage)												
	Max. output frequency	400 Hz												
Power supply	Rated input voltage and frequency	3-phase 380..480 VAC, 50/60 Hz												
	Allowable voltage fluctuation	-15%..+10%												
	Allowable frequency fluctuation	+5%												
	Input Current (A) at HD[6]	71	86	105	142	170	207	248	300	346	410	584	830	1031
	Input Current (A) at ND[6]	86	105	142	170	207	248	300	346	410	465	657	922	1158

1. Based on a standard 4-pole motor for maximum applicable motor output.
2. Rated Motor Capacity is calculated with a rated output voltage of 440 V.
3. Carrier frequency is set to 2kHz. Current derating is required in order to raise the carrier frequency.
4. Carrier frequency can be increased up to 8 kHz while keeping this current rating. Higher carrier frequency settings require derating.
5. Carrier frequency can be increased up to 5 kHz while keeping this current rating. Higher carrier frequency settings require derating.
6. Assumes operation at rated output current. Input current rating varies depending on the power supply transformer, input reactor, wiring conditions, and power supply impedance.

Common specifications

Model number CIMR-A		Specifications
Control functions	Control methods	Sine wave PWM (V/f control, V/f control with PG, Open loop vector control, Closed loop vector control, Open loop vector control for PM, Closed loop vector control for PM, Advanced Open Loop Vector Control for PM)
	Output frequency range	0.01..400 Hz
	Frequency tolerance	Digital set value: ±0.01% of the max. output frequency (-10..+40 ºC)
		Analogue set value: ±0.1% of the max. output frequency (25 ±10 ºC)
	Resolution of frequency set value	Digital set value: 0.01 Hz
		Analogue set value: 0.03 Hz / 60 Hz (11 bit)
	Resolution of output frequency	0.001 Hz
	Frequency set value	-10..+10 V (20 kΩ),0..10 V (20 kΩ), 4..20 mA (250 Ω), Pulse train input, frequency setting value (selectable)
	Starting Torque	150%/3Hz (V/f control, V/f control with PG), 200%/0.3Hz*1 (Open loop vector control), 200%/ 0 r/min*1 (Closed loop vector control, Closed loop vector control for PM, 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, Closed loop vector control for PM), 1:200 (Open loop vector control), 1:40 (V/f control, V/f control with PG), 1:20 (Open Loop Vector Control for PM), 1:100 (Advanced Open Loop Vector Control for PM)
	Speed Control Accuracy	±0.2% in Open loop vector control (25 ±10 ºC) *2, 0.02% in Closed loop vector control (25 ±10 ºC)
	Speed Response	10 Hz in Open loop vector control (25 ±10 ºC), 50Hz in Closed loop Vector Control (25 ±10 ºC),)(excludes temperature fluctuation when performing Rotational Auto-Tuning)
	Torque Limit	All Vector Control allows seperate settings in four quadrants
	Accel/Decel Time	0.00 to 6000.0 s (4 selectable combinations of independent acceleration and deceleration settings)
	Braking torque	Drives of 200/400 V 30 kW or less have a built-in braking transistor. 1. Short-time decel torque*3, over 100% for 0.4/0.75 kW motors, over 50% for 1.5 kW motors, and over 20% for 2.2 kW and above motors (over excitation braking/High-Slip Braking approx. 40%) 2. Continuous regen, torque approx. 20% (approx. 125% with dynamic braking resistor option*4, 10% ED,10 s, internal braking transistor)
	V/f Characteristics	User-selected programs and V/f preset pattens possible
Functionality	Main Control Functions	Torque Control, Droop control, Speed/torque control switching, Feedforward 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), Online Tuning, Dwell Cooling fan on/off switch, slip compensation, Torque compensation, Frequency Jump, Upper/lower limits for frequency, DC injection braking at start and stop, Over excitation braking, High Slip braking, PID control (with sleep function), Energy saving control, MEMOBUS comm. (RS-485/422 max. 115.2kbps), Fault restart, Application presets, Removable terminal block with parameter backup function...
Protection functions	Motor protection	Motor overheat protection based on output current
	Momentary overcurrent Protection	Drive stops when ouput current exceeds 200% of Heavy Duty Rating
	Overload Protection	Drive stops after 60 s at 150% of rated output current (Heavy Duty Rating)*5
	Overvoltage Protection	200 V class: Stops when DC bus exceeds approx. 410 V, 400 V class: Stops when DC bus exceeds approx. 820V
	Undervoltage Protection	200 V class: Stops when DC bus exceeds approx. 190 V, 400 V class: Stops when DC bus exceeds approx. 380V
	Momentary power loss Ride-Thru	Immediately stop after 15 ms or longer power loss (default), Continuous operation during power loss than 2 s (srandard)*6
	Heatsink Overheat Protection	Protected by thermister
	Braking Resistance Overheat Protection	Overheat sensor for braking resistor (optional)
	Stall prevention	Stall prevention during acceleration/deceleration and constant speed operation
	Ground fault	Protected by electronic circuit*7
	Power charge indication	Charge LED remains lit until DC bus has fallen below approx. 50 V.

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Model number CIMR-A		Specifications
Ambient conditions	Area of Use	Indoor (no corrosive gas, dust, etc.)
	Ambient Temperature	-10ºC..+50ºC(open chassis) up to 60ºC with output current derating, -10ºC..+40ºC (NEMA Type 1)
	Ambient humidity	95% RH or less (without condensation)
	Storage temperature	-20ºC..+60ºC (short-term temperature during transportation)
	Altitude	Up to 1000 meters (output derating of 1% per 100 m above 1000 m, max. 3000 m)
	Vibration / Shock	10 Hz to 20 Hz, 9.8 m/s^2 max. 20 Hz to 55Hz, 5.9 m/s^2 (200 V: 45kW or more, 400 V: 55kW or more) or 2.0 m/s^2 max. (200 V: 55 kW or less, 400 V: 75 kW or less)
Safety Standard		EN954-1 safe category 3 stop category 0; EN ISO 13849-1; IEC EN 61508 SIL2
Protection Design		IP00 open-chassis, IP20, NEMA Type 1 enclosure

1. Requires a drive with recommended capacity.
2. Speed control accuracy may vary slightly depending on installation conditions or motor used.
3. Momentary average deceleration torque refers to the deceleration torque form 60 Hz down to 0 Hz. This may vary depending on the motor.
4. If L3-04 is enabled when using a braking resistor or braking resistor unit, the motor may not stop in the specified deceleration time.
5. Overload protection may be triggered when operating with 150% of the rated output current, if the output frequency is less than 6 Hz.
6. Varies in accordance with the drive capacity and load. Drives with a capacity of smaller than 11 kW in the 200 V (model CIMR- AA0056 or 400 V (model CIMR- AA0031) require a separate Momentary Power Loss Unit to continue operating.
7. Protection may not be provided under the following conditions as the motor windings are grounded internally during run: #Low resistance to ground from the motor cable or terminal block. #Drive already has a short-circuit when the power is turned on.

Dimensions

Open-Chassis [IP00]

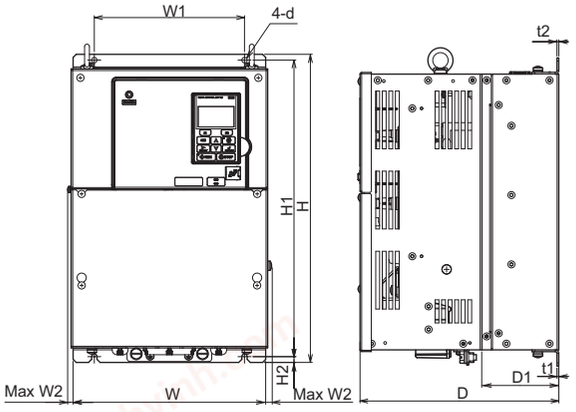


Figure 1

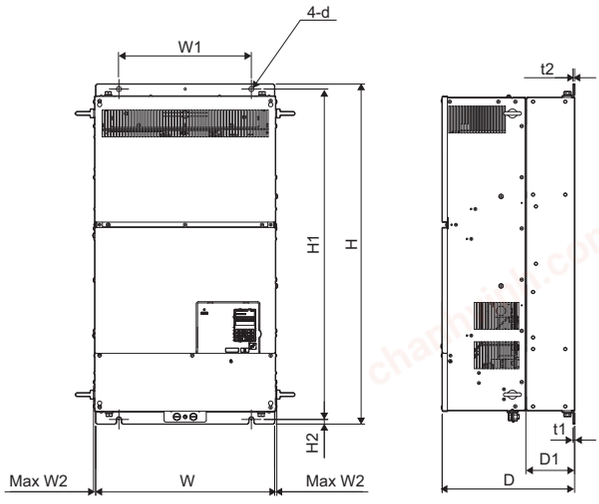


Figure 2

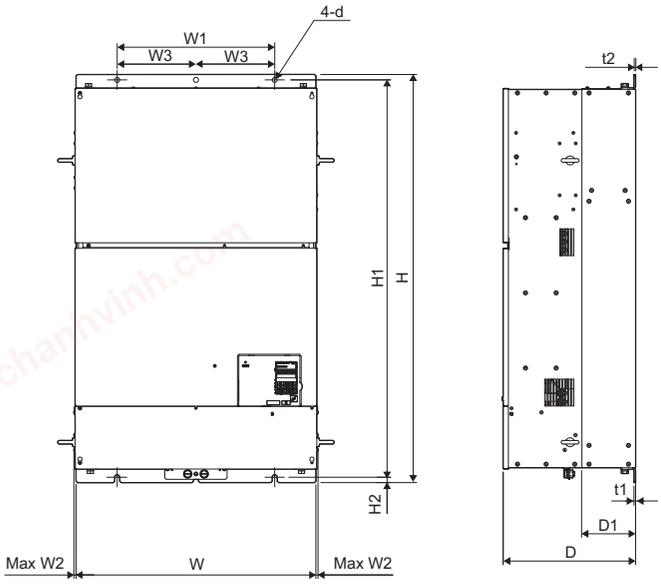


Figure 3

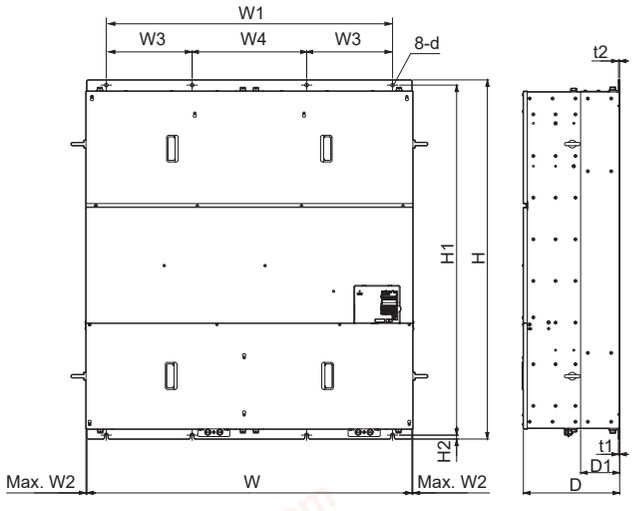


Figure 4

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Voltage class	Max. applicable motor output kW		Inverter model CIMR-A□	Figure	Dimensions in mm													Weight kg
	ND	HD			W	H	D	W1	W2	W3	W4	H1	H2	D1	t1	t2	d	
Three-phase 200 V	30	22	0110	1	250	400	258	195	10	-	-	385	7.5	100	2.3	2.3	M6	21
	37	30	0138		275	450		220				435						25
	45	37	0169		325	550	283	260				535		110				37
	55	45	0211															38
	75	55	0250		450	705	330	325				680	12.5	130	3.2	3.2	M10	76
	90	75	0312															80
	110	90	0360		500	800	350	370				773	13		4.5	4.5	M12	98
	110	110	0415															99
Three-phase 400 V	30	22	0058	1	250	400	258	195	10	-	-	385	7.5	100	2.3	2.3	M6	21
	37	30	0072		275	450		220				435						25
	45	37	0088		325	510		260				495		105		3.2		36
	55	45	0103															36
	75	55	0139			550	283					535		110		2.3		41
	90	75	0165															42
	110	90	0208		450	705	330	325				680	12.5	130	3.2	3.2	M10	79
	132	110	0250		500	800	350	370				773	13		4.5	4.5	M12	96
	160	132	0296															102
	185	160	0362															107
	220	185	0414	2		950	370		7.7			923		135				125
	250	220	0515	3	670	1140		440	6	220		1110	15	150				216
	355	315	0675															221
	500	450	0930	4	1250	1380		1110		330	440	1345						545
	630	560	1200															555

Enclosed Panel [NEMA Type 1]

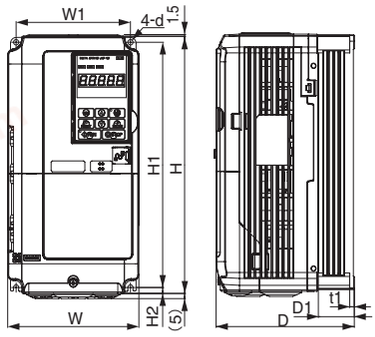


Figure 1

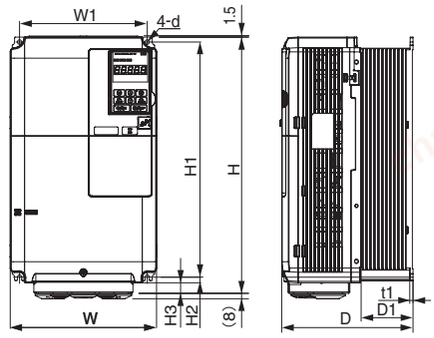


Figure 2

Voltage class	Max. applicable motor output kW		Inverter model CIMR-A□	Figure	Dimensions in mm										Weight kg
	ND	HD			W	H	D	W1	H1	H2	D1	t1	t2	d	
Three-phase 200 V	0.75	0.4	0004	1	140	260	147	122	248	6	38	5	-	M5	3.1
	1.1	0.75	0006												3.1
	2.2	1.5	0010												3.2
	3	2.2	0012												3.2
	5.5	4.0	0021				164				55				3.5
	7.5	5.5	0030				167								4.0
	11	7.5	0040												4.0
	15	11	0056		180	300	187	160	284	8	75				5.6
	18.5	15	0069		220	350	197	192	335		78			M6	8.7
	22	18.5	0081	2		365									9.7
Three-phase 400 V	0.75	0.4	0002	1	140	260	147	122	248	6	38	5	-	M5	3.2
	1.5	0.75	0004												3.2
	2.2	1.5	0005												3.2
	3	2.2	0007				164				55				3.4
	4.0	3	0009												3.5
	5.5	4.0	0011												3.5
	7.5	5.5	0018				167								3.9
	11	7.5	0023												3.9
	15	11	0031		180	300	187	160	284	8	75				5.4
	18.5	15	0038												5.7
	22	18.5	0044		220	350	197	192	335		78			M6	8.3

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Schaffner Filters

Flat filters

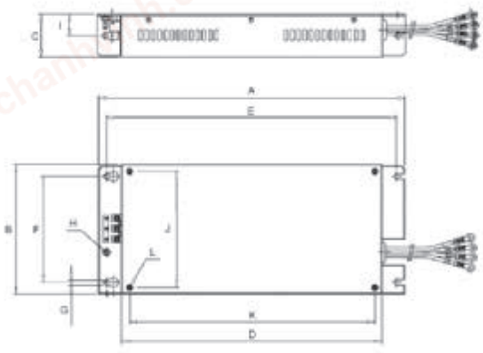


Figure 1

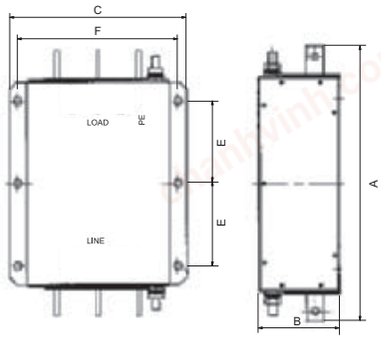
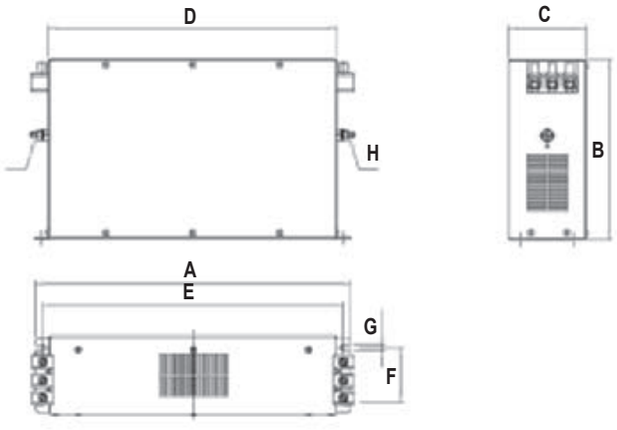


Figure 2

Flat Filters		Fig	Dimensions										Weight kg
			A	B	C	D	E	F	G	H	I	L	
200 V	3G3RV-PFI2035-SE	1	330	141	46	281	313	115	5.5	M5	23	M5	1.4
	3G3RV-PFI2060-SE		355	206	60	302	336	175	6.5	M6	30	M6	3
	3G3RV-PFI2100-SE		408	236	80	355	390	205	6.5	M6	40	M6	4.9
400 V	3G3RV-PFI3010-SE	1	330	141	46	281	313	115	5.5	M4	23	M5	1.2
	3G3RV-PFI3018-SE		330	141	46	281	313	115	5.5	M4	23	M5	1.3
	3G3RV-PFI3035-SE		355	206	50	302	336	175	6.5	M5	25	M6	2.2
	3G3RV-PFI3060-SE		408	236	65	355	390	205	6.5	M6	32.5	M6	4
	3G3RV-PFI3410-SE	2	386	115	260	-	120	235	12.0	M12	-	-	8.5
	3G3RV-PFI3600-SE		386	135	260	-	120	235	12.0	M12	-	-	11.0
	3G3RV-PFI3800-SE		564	160	300	-	210	275	9.0	M12	-	-	31.0

Bookform Filters

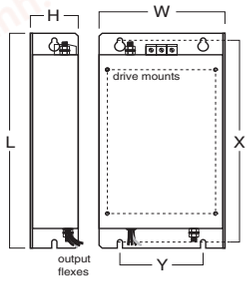


Bookform Filters		Dimensions								Weight kg
		A	B	C	D	E	F	G	H	
200 V	3G3RV-PFI2130-SE	310	180	90	280	295	65	6.5	M10	4.3
	3G3RV-PFI2160-SE	380	170	120	350	365	102	6.5	M10	6.0
	3G3RV-PFI2200-SE	518	240	130	480	498	90	8.2	M10	11.0
400 V	3G3RV-PFI3070-SE	329	185	80	300	314	55	6.5	M6	3.4
	3G3RV-PFI3130-SE	310	180	90	280	295	65	6.5	M10	4.7
	3G3RV-PFI3170-SE	380	170	120	350	365	102	6.5	M10	6.0
	3G3RV-PFI3250-SE	610	240	130	480	498	90	8.3	M10	11.7
	3G3RV-PFI3410-SE	386	115	260	-	120	235	12.0	M12	8.5
	3G3RV-PFI3600-SE	386	135	260	-	120	235	12.0	M12	11.0
	3G3RV-PFI3800-SE	564	160	300	-	210	275	9.0	M12	31.0

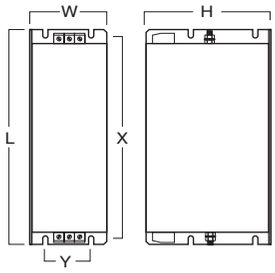
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Rasmi Filters

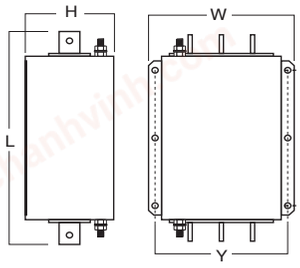
Footprint dimensions



Book type dimensions

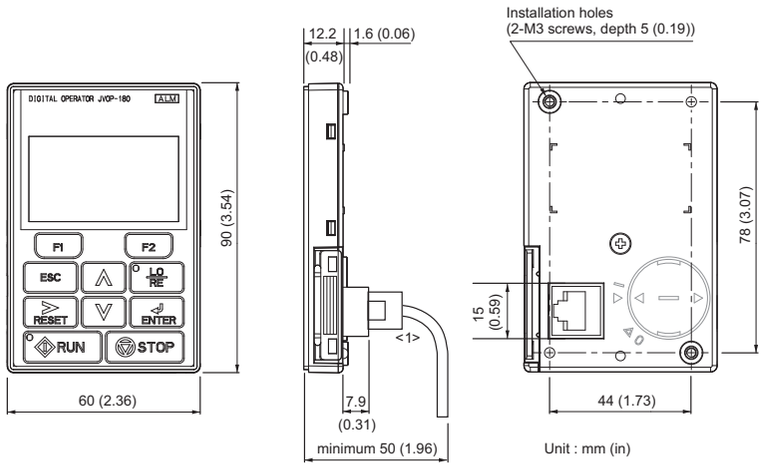


Block type dimensions



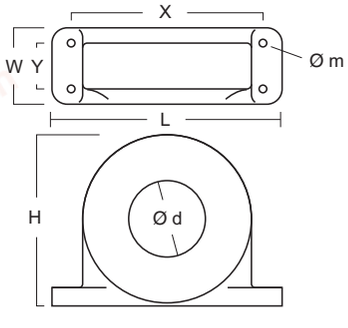
Filters		Dimensions						Filter type	Weight kg
		L	W	H	X	Y	M		
200 V	A1000-FIA3024-RE	306	150	52	290	122	M5	Footprint	2.0
	A1000-FIA2052-RE	320	150	52	290	122	M5		2.4
	A1000-FIA2068-RE	362	188	62	330	160	M5		4.2
	A1000-FIA2096-RE	415	220	62	380	192	M6		4.4
	A1000-FIA3170-RE	429	110	240	414	80	M6	Book type	9.0
	A1000-FIA3300-RE	300	260	135	120	235	M10	Block type	13.2
	A1000-FIA3480-RE	300	260	135	120	235	M10		13.6
400 V	A1000-FIA3024-RE	306	150	52	290	122	M5	Footprint	2.0
	A1000-FIA3044-RE	357	182	62	330	160	M5		2.8
	A1000-FIA3052-RE	415	220	62	380	192	M6		3.9
	A1000-FIA3071-RE	329	80	220	314	55	M6	Book type	5.3
	A1000-FIA3105-RE	379	90	220	364	65	M6		6.5
	A1000-FIA3170-RE	429	110	240	414	80	M6		9.0
	A1000-FIA3300-RE	300	260	135	120	235	M10	Block type	13.2
	A1000-FIA3480-RE	300	260	135	120	235	M10		13.6
	A1000-FIA3660-RE	350	280	170	145	255	M10		23.7

Remote LCD operator



Chokes

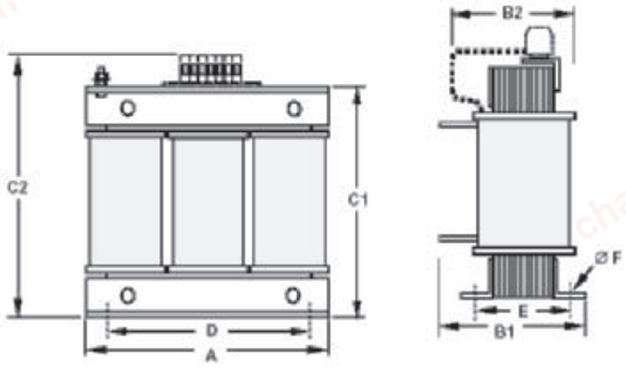
Description	D diameter	Motor KW	Dimensions						Weight kg
			L	W	H	X	Y	m	
AX-FER2102-RE	21	< 2.2	85	22	46	70	-	5	0.1
AX-FER2515-RE	25	< 15	105	25	62	90	-	5	0.2
AX-FER5045-RE	50	< 45	150	50	110	125	30	5	0.7
AX-FER6055-RE	60	≥ 55	200	65	170	180	45	6	1.7



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Input AC Reactor



Voltage	Reference	Dimensions								Weight kg
		A	B1	B2	C1	C2	D	E	F	
200 V	AX-RAI02800080-DE	120	-	70	-	120	80	52	5.5	1.78
	AX-RAI00880200-DE			80				62		2.35
	AX-RAI00350335-DE	180		85		190	140	55	6	5.5
	AX-RAI00180670-DE									
	AX-RAI00091000-DE					205				6.5
	AX-RAI00071550-DE			105				85		11.7
	AX-RAI00042300-DE		120	-	150	-				
400 V	AX-RAI07700050-DE	120	-	70	-	120	80	52	5.5	1.78
	AX-RAI03500100-DE			80				62		2.35
	AX-RAI01300170-DE	180		75		195	140	55	6	5.5
	AX-RAI00740335-DE			85		190				
	AX-RAI00360500-DE					205				6.5
	AX-RAI00290780-DE			105				75		11.2
	AX-RAI00191150-DE	240		110		275	200			16.0
	AX-RAI00111850-DE									
	AX-RAI00072700-DE		180	-	210	-		110		25.4

DC Reactor

Figure 1

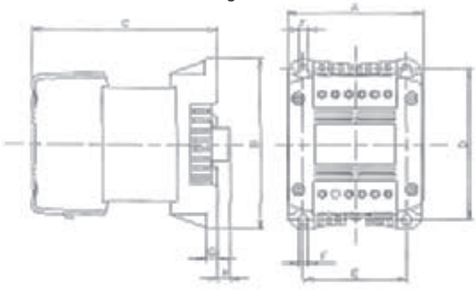
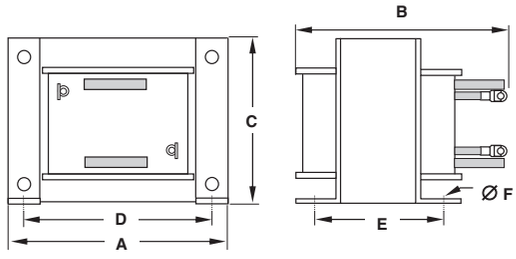


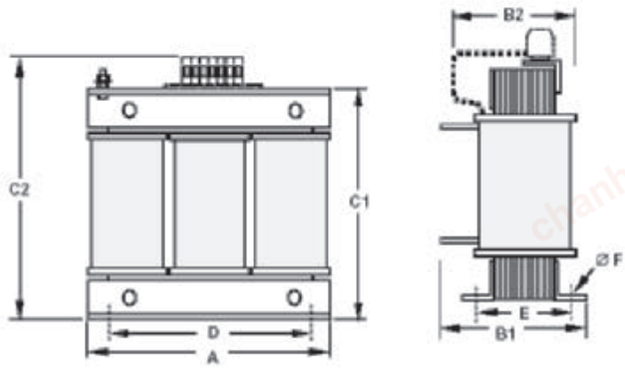
Figure 2



200 V											400 V										
Reference AX-RC	Fig	Dimensions								kg	Reference AX-RC	Fig	Dimensions								kg
		A	B	C	D	E	F	G	H				A	B	C	D	E	F	G	H	
10700032-DE	1	84	113	96	101	66	5	7.5	2	1.22	43000020-DE	1	84	113	96	101	66	5	7.5	2	1.22
06750061-DE				105						1.60	27000030-DE				105						1.60
03510093-DE											14000047-DE										
02510138-DE				116						1.95	10100069-DE				116						1.95
01600223-DE		108	135	124	120	82	6.5	9.5	9.5	3.20	06400116-DE		108	135	133	120	82	6.5	9.5	9.5	3.70
01110309-DE		120	152	136	135	94	7		-	5.20	04410167-DE		120	152	136	135	94	7		-	5.20
00840437-DE				146						6.00	03350219-DE				146						6.00
00590614-DE		150	177	160	160	115		2		11.4	02330307-DE		150	177	160	160	115		2		11.4
00440859-DE				183						14.3	01750430-DE				183						14.3
00301275-DE	2	195	161	163	185	88	10	-	-	17.0	01200644-DE	2	195	161	163	185	88	10	-	-	17.0

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Output AC Reactor



Reference	Dimensions								Weight kg
	A	B1	B2	C1	C2	D	E	F	
AX-RAO11500026-DE	120	-	70	-	120	80	52	5.5	1.78
AX-RAO07600042-DE									
AX-RAO04100075-DE	120	-	80	-	120	80	62	5.5	2.35
AX-RAO03000105-DE									
AX-RAO01830160-DE	180	-	85	-	190	140	55	6	5.5
AX-RAO01150220-DE									
AX-RAO00950320-DE	180	-	85	-	210	140	55	6	6.5
AX-RAO00630430-DE	180	-	95	-	210	140	65	6	9.1
AX-RAO00490640-DE			105				75		11.7
AX-RAO00390800-DE	240	-	110	-	275	200	75	6	16.0
AX-RAO00330950-DE									
AX-RAO00251210-DE					300				
AX-RAO00191450-DE	240	130	-	215	-	200	85	6	18.6
AX-RAO00161820-DE	240	160	-	215	-	200	110	6	27.0
AX-RAO00132200-DE	300	165	-	300	-	200	125	6	33.5
AX-RAO16300038-DE	120	-	80	-	120	80	62	5.5	2.35
AX-RAO11800053-DE									
AX-RAO07300080-DE	180	-	85	-	195	140	55	6	5.5
AX-RAO04600110-DE									
AX-RAO03600160-DE	180	-	85	-	210	140	55	6	6.5
AX-RAO02500220-DE	180	-	95	-	210	140	65	6	9.1
AX-RAO02000320-DE	240	-	110	-	275	200	75	6	16.0
AX-RAO01650400-DE									
AX-RAO01300480-DE									
AX-RAO01030580-DE					281				
AX-RAO00800750-DE	240	-	120	-	281	200	85	6	18.6
AX-RAO00680900-DE	240	-	150	-	281	200	110	6	27.0
AX-RAO00531100-DE	300	-	125	-	350	200	105	6	27.9
AX-RAO00401490-DE	300	170	-	270	-	200	125	6	44.0
AX-RAO00331760-DE									
AX-RAO00262170-DE	360	230	-	315	-	300	150	8	55.0
AX-RAO00212600-DE	420	240	-	370	-	300	150	8	75.0

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D1000 kit - DC Supply with Regenerative Active Front End

Regenerative DC bus supply unit (D1000)

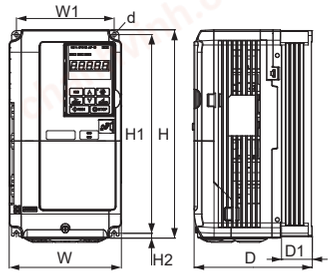


Figure 1

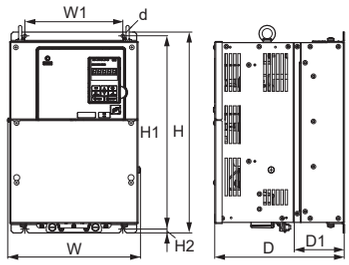


Figure 2

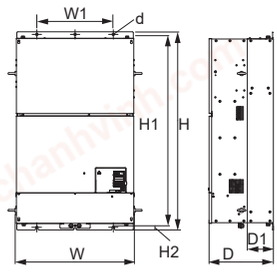


Figure 3

Voltage class	Model CIMR-DC□	Figure	IP	Dimensions in mm								
				W	H	D	W1	H1	H2	D1	d	Weight kg
Three-phase 400 V	4A0005	1	20	180	300	187	160	284	8	75	M5	5
	4A0010											
	4A0020			220	365	197	192	335		78	M6	8
	4A0030	2	00	275	450	258	220	435	7.5	100		21
	4A0040											
	4A0060	3		325	550	283	260	535		110		34
	4A0100											36
	4A0130			500	800	350	370	773	13	130	M12	85
	4A0185											
	4A0270			370	1140	370	440	1100	15	150		183
	4A0370											194
	4A0630			1250	1380		1100	1345				413

EMC filter

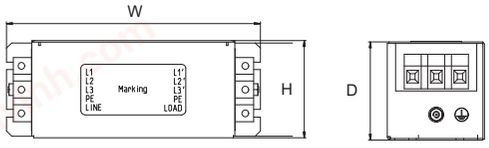


Figure 1

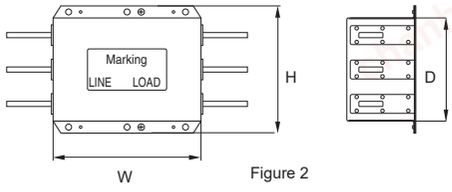


Figure 2

Model	Figure	Dimensions in mm			
		W	H	D	Weight kg
B84143A0020R106	1	386	200	202	0.6
B84143A0035R106		426	250	322	0.9
B84143A0065R106		436	310	432	1.9
B84143B0180S080		200	170	110	5.0
B84143B0400S080	2	290	190	116	7.5
B84143B1000S080		300	260	140	18.5
B84143B1600S080				210	24.5

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Low harmonic filter

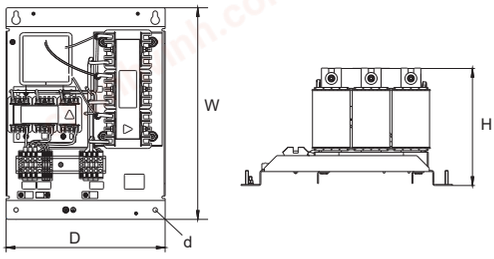


Figure 1

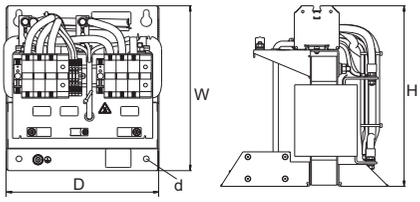


Figure 2a

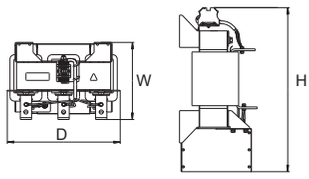


Figure 3a

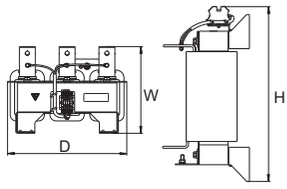


Figure 4a

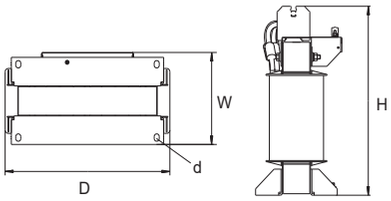


Figure 2b

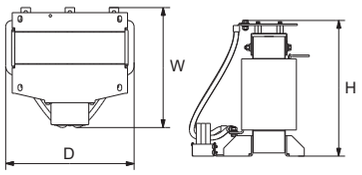


Figure 3b

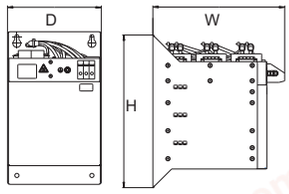


Figure 4b

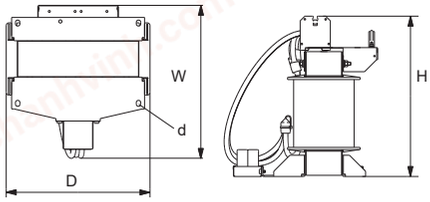


Figure 2c

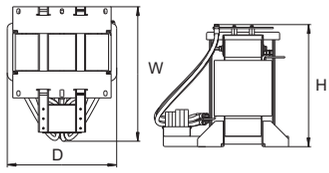


Figure 3c

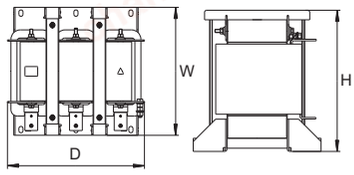


Figure 4c

Model	Component	Figure	Dimensions in mm				
			W	H	D	d (diameter)	Weight kg
B84143G0008R176		1	386	176 ±5	200	9	9
B84143G0016R176			426	234 ±5	320		18
B84143G0030R176				236 ±5			28
B84143G0043R176			436	286 ±5	430		37
B84143G0058R176							64
B84143G0086R176	Harmonic filter	2a	265	288 ±5	240	9	20
	10% choke	2b	149	max. 390	300	15 x 25	55
B84143G0145R176	Harmonic filter	2a	328	303 ±5	240	9	30
	10% choke	2c	max. 390	max. 405	max. 365	15 x 25	69
B84143G0210S176	Harmonic filter	3a	206 ±3	438	300	-	39
	10% choke	3b	max. 400	max. 445	max. 420	-	98
B84143G0300S176	Harmonic filter	3a	216 ±3	437	300	-	42
	10% choke	3c	max. 550	max. 490	max. 440	-	149
B84143G0410S176	3% choke	4a	218 ±3	440 ±2.5	300	-	45
	Capacitor	4b	281	327	200	-	12
	10% choke	4c	401	max. 450	430	-	163
B84143G0560S176	3% choke	4a	243 ±3	430 ±2.5	300	-	55
	Capacitor	4b	409	379	307	-	25
	10% choke	4c	351 ±3	max. 590	max. 520	-	175
B84143G1140S176	3% choke	4a	277 ±3	634.5 ±2.5	300	-	90
	Capacitor	4b	318	667	307	-	50
	10% choke x2	4c	351 ±3	max. 590	max. 520	-	172 x 2

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R1000 kit - Regenerative Braking unit

Regenerative Braking unit (R1000)

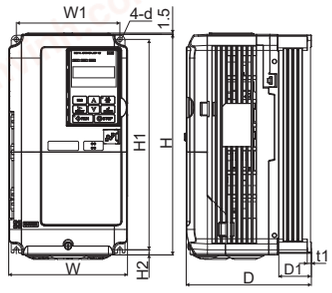


Figure 1

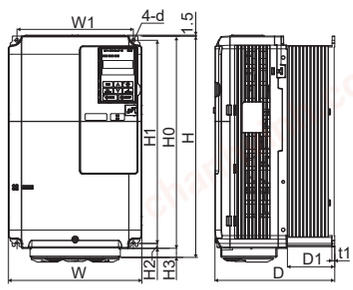


Figure 2

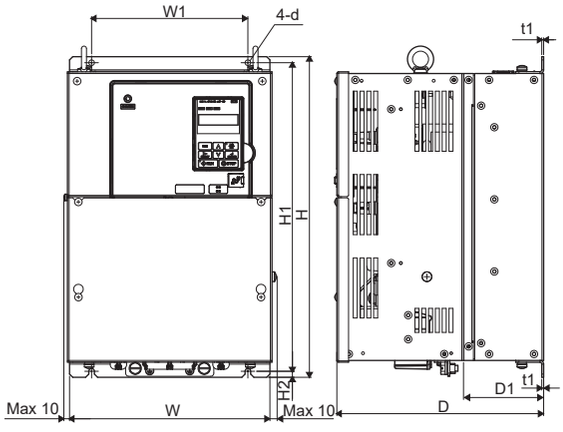


Figure 3

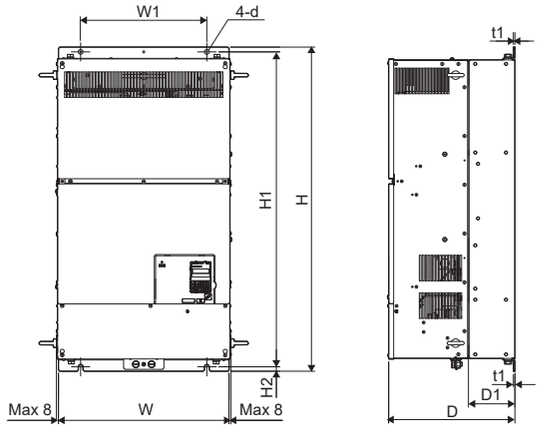


Figure 4

Voltage class	Model CIMR-RC□	Figure	IP	Dimensions in mm											
				W	H	D	W1	H0	H1	H2	H3	D1	t1	d	Weight kg
Three-phase 400 V	4A03P5	1	20	140	260	167	122	-	248	6	-	55	5	M5	4
	4A0005														
	4A0007														
	4A0010			180	300	187	160		284	8		75			5
	4A0014														
	4A0017	2		220	365	197	192	350	355		15	78		M6	8
	4A0020														
	4A0028														
	4A0035	3	00	275	450	258	220	-	435	7.5	-	100	2.3	M6	20
	4A0043														
	4A0053			325	550	283	260		535			110			33
	4A0073														
	4A0105	4		450	705	330	325		680	13		130	3.2	M10	62
	4A0150														
	4A0210			500	800	350	370		773				4.5	M12	86
	4A0300														87

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Current suppression reactor

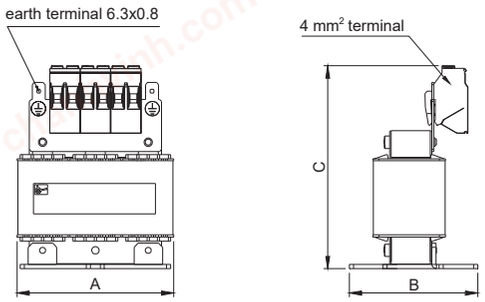


Figure 1

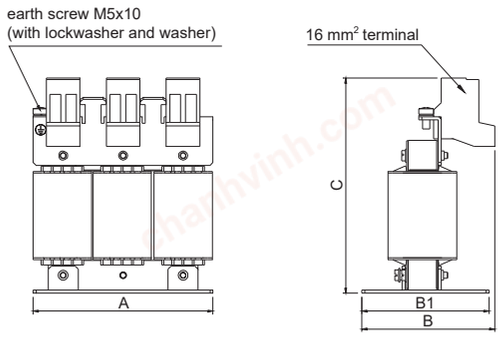


Figure 2

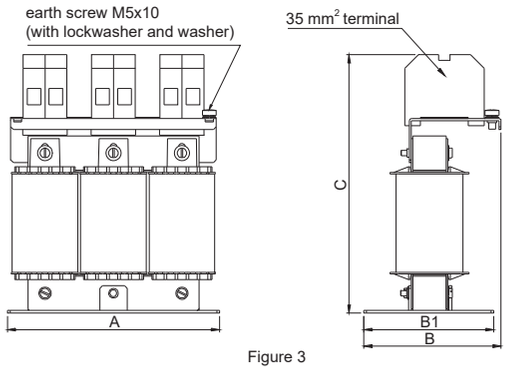


Figure 3

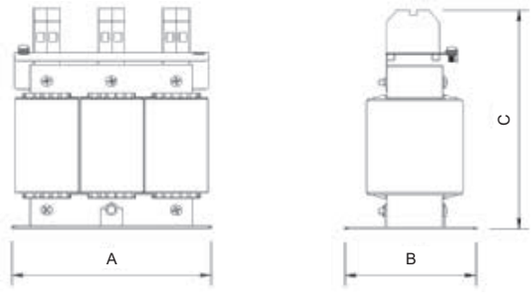


Figure 4

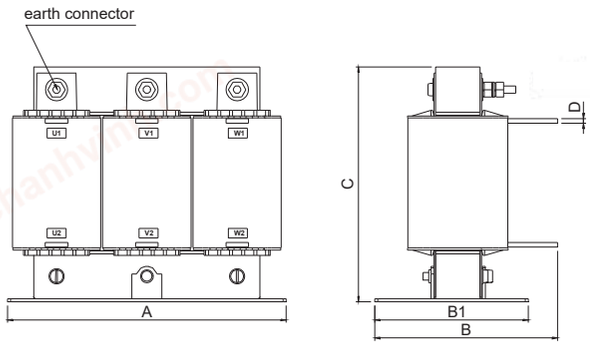


Figure 5

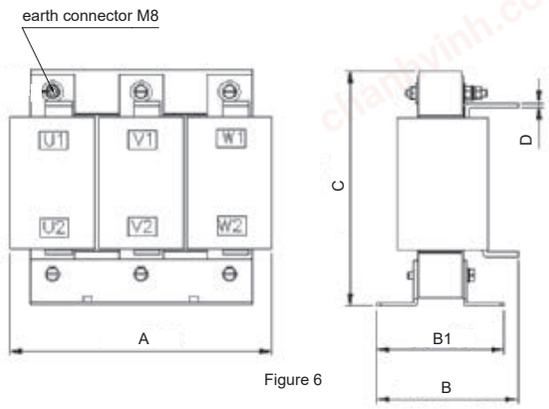


Figure 6

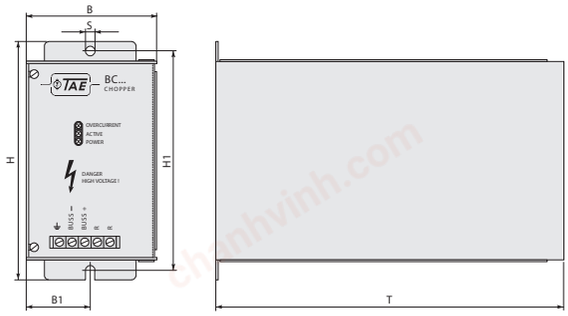
Model	Figure	Dimensions in mm					
		A	B	B1	C	D	Weight kg
B1509105	1	max. 78	63	-	102	-	0.85
B1509106		max. 96	60		118		1.31
B1509107							1.32
B1509108	2	120	max. 90	85	150	-	1.9
B1509109							1.93
B1509110	3	155	max. 102	95	195	-	3.8
B1504118	4	155	95	-	175	-	4.0
B1509111	3	155	max. 102	95	195	-	4.43
B1509112			110	-			5.95
B1509113	5	185	max. 125	102	160	3	6.9
B1509114			max. 140	122			10.8
B1505002	6	220	max. 115	90	205	4	17.0
B1505008		230	max. 140	107	215	5	22.0
B1505011		240	max. 150	120	235		29.0

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Braking Units

Reference	Dimensions					
	B	B1	H	H1	T	S
AX-BCR4017068-TE	82.5	40.5	150	138	220	6
AX-BCR2035090-TE	130	64.5	205	193	208	6
AX-BCR2070130-TE						
AX-BCR4035090-TE						
AX-BCR4070130-TE						
AX-BCR4090240-TE	131	64.5	298	280	300	9



Resistor

AX-REM00K15xxx

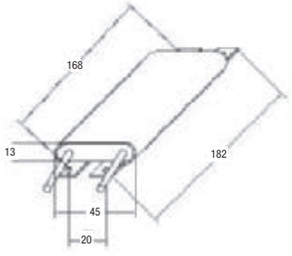


Fig 1

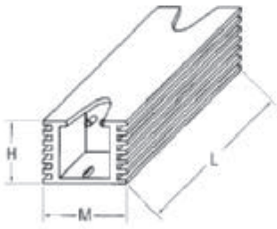


Fig 2

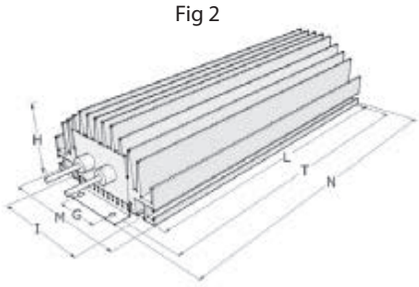


Fig 3

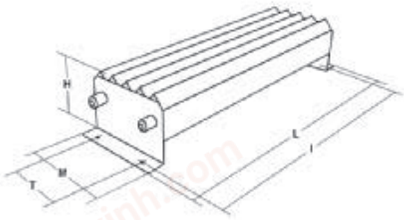


Fig 4

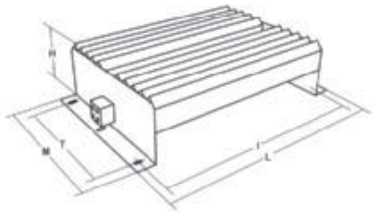
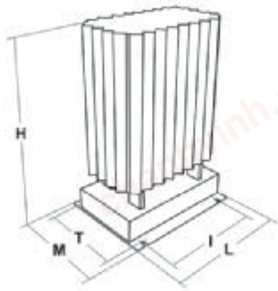


Fig 5

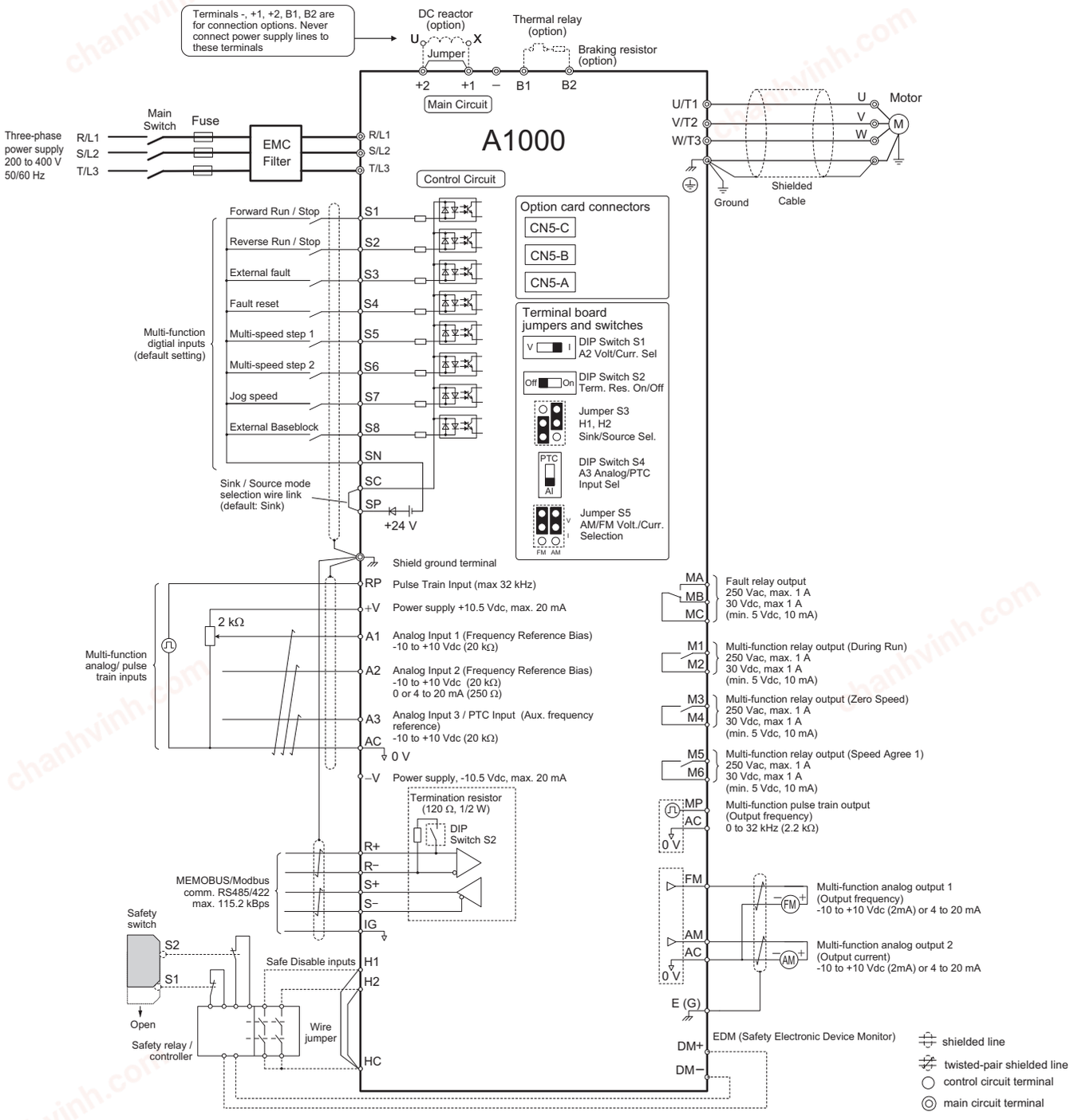


Type	Fig.	Dimensions							Weight
		L	H	M	I	T	G	N	kg
AX-REM00K2070-IE	1	105	27	36	94	-	-	-	0.2
AX-REM00K2120-IE									
AX-REM00K2200-IE									
AX-REM00K4075-IE		200	27	36	189	-	-	-	0.425
AX-REM00K4035-IE									
AX-REM00K6100-IE		320	27	36	309	-	-	-	0.73
AX-REM00K6035-IE									
AX-REM00K9070-IE	2	200	61	100	74.5	216	40	230	1.41
AX-REM00K9020-IE									
AX-REM01K9070-IE	3	365	73	105	350	70	-	-	4
AX-REM02K1017-IE	4	310	100	240	295	210	-	-	7
AX-REM03K5035-IE		365	100	240	350	210	-	-	8
AX-REM03K5010-IE									
AX-REM19K0006-IE	5	206	350	140	190	50	-	-	8.1
AX-REM19K0008-IE									
AX-REM19K0020-IE									
AX-REM19K0030-IE									
AX-REM38K0012-IE		306	350	140	290	50	-	-	14.5

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Installation

Standard connections



Main circuit

Terminal	Name	Function (signal level)
R/L1, S/L2, T/L3	Main circuit power supply input	Used to connect line power to the drive.
U/T1, V/T2, W/T3	Inverter output	Used to connect the motor
B1, B2	Braking resistor connection	Available for connecting a braking resistor or the braking resistor unit option.
+2, +1	DC reactor connection	Remove the short bar between +2 and +1 when connecting DC reactor (option)
+1, –	DC power supply input	For power supply input (+1: positive electrode; – : negative electrode)*
+3	Braking Unit	Connection for Braking Unit between terminals +3 and –
⏚	Grounding	For grounding (grounding should conform to the local grounding code.)

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Control Circuit

Type	No.	Signal name	Function	Signal level
Digital input signals	S1	Multi-function input selection 1	Factory setting: runs when CLOSED, stops when OPEN.	24 VDC, 8 mA photocoupler insulation
	S2	Multi-function input selection 2	Factory setting: runs when CLOSED, stops when OPEN.	
	S3	Multi-function input selection 3	Factory setting: External Fault (N.O.)	
	S4	Multi-function input selection 4	Factory setting: Fault reset	
	S5	Multi-function input selection 5	Factory setting: Multi-step speed cmd 1	
	S6	Multi-function input selection 6	Factory setting: Multi-step speed cmd 2	
	S7	Multi-function input selection 7	Factory setting: Jog Frequency	
	S8	Multi-function input selection 8	Factory setting: Closed gives external baseblock	
	SC	Multi-function input selection Common	Common for control signal	
Analog input signals	+V	Power Supply for Frequency Setting	+10.5 V (allowable max current 20 mA)	
	–V	Power Supply for Frequency Setting	–10.5 V (allowable max current 20 mA)	
	A1	Multi-function analogue input 1	Main Frequency Reference -10 to +10 VDC, 0 to +10 VDC (20 kΩ)	
	A2	Multi-function analogue input 2	Voltage input or current input -10 to +10 VDC, 0 to +10 VDC (20 kΩ) 4 to 20 mA (250 Ω)	
	A3	Multi-function analogue input 3	–10 to +10 V, 0 to +10 V (20 kΩ)	
	AC	Frequency reference common	0 V	
Safety Input	HC	Safety Input Common	+24 V (max allowable current 10 mA)	
	H1	Safety Input 1	Open: Stop Closed: Normal Operation	Photocoupler 24 V DC, 8 mA
	H2	Safety Input 2		
Safety monitor output	DM+	Safety monitor output	Open: Safety inputs 1 and 2 are open	48 Vdc, 50mA or less
	DM–	Safety monitor output common		
Digital output signals	MA	NO contact output	Factory setting: "fault"	Contact capacity 250 VAC, 1 A or less 30 VDC, 1 A or less
	MB	NC Output		
	MC	Relay Output common		
	M1	Multi-function contact output (N.O)	Factory setting Closed: During run	
	M2			
	P1	Photocoupler output 1	Factory setting: Zero speed	Photocoupler output: +48 VDC, 50 mA or less
	P2	Photocoupler output 2	Factory setting: Frequency Agree	
	PC	Photocoupler output common	0 V	
Analog output signals	FM	Multi-function analog monitor (1)	Factory setting: Output frequency	–10 to 10 V ±5%, (2 mA or less) 0 to 10 V 4 - 20 mA
	AM	Multi-function analog monitor (2)	Factory setting: "Current monitor, 5 V/drive rated current	
	AC	Analog monitor common	0 V	
Pulse/IO	RP	Main Speed Cmd Pulse Train Input	32 kHz max. (3 kΩ)	
	MP	Pulse Train Output	Factory setting: Frequency reference input (H6-01=0) 0 to 33 kHz (2.2 kΩ)	
RS-485/422	R+	Communication input (+)	For MEMOBUS communication operation by RS-485 or RS-422 communication is available.	RS-485/422 MEMOBUS protocol
	R–	Communication input (–)		
	S+	Communication output (+)		
	S–	Communication output (–)		

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Inverter heat loss

Three-phase 200 V class

Model Number CIMR-A□	Heavy Duty				Normal Duty			
	Rated Amps (A)	Heatsink Loss (W)	Interior Unit Loss (W)	Total Loss (W)	Rated Amps (A)	Heatsink Loss (W)	Interior Unit Loss (W)	Total Loss (W)
2A0004	3.2	14.8	44	59	3.5	18.4	47	66
2A0006	5.0	24	48	72	6.0	31	51	82
2A0010	8.0	43	52	95	9.6	57	58	115
2A0012	11.0	64	58	122	12.0	77	64	141
2A0021	17.5	101	67	168	21	138	83	222
2A0030	25	194	92	287	30	262	117	379
2A0040	33	214	105	319	40	293	145	437
2A0056	47	280	130	410	56	371	175	546
2A0069	60	395	163	558	69	491	205	696
2A0081	75	460	221	681	81	527	257	785
2A0110	85	510	211	721	110	719	286	1005
2A0138	115	662	250	912	138	842	312	1154
2A0169	145	816	306	1122	169	1014	380	1394
2A0211	180	976	378	1354	211	1218	473	1691
2A0250	215	1514	466	1980	250	1764	594	2358
2A0312	283	1936	588	2524	312	2020	665	2686
2A0360	346	2564	783	3347	360	2698	894	3591
2A0415	415	2672	954	3626	415	2672	954	3626

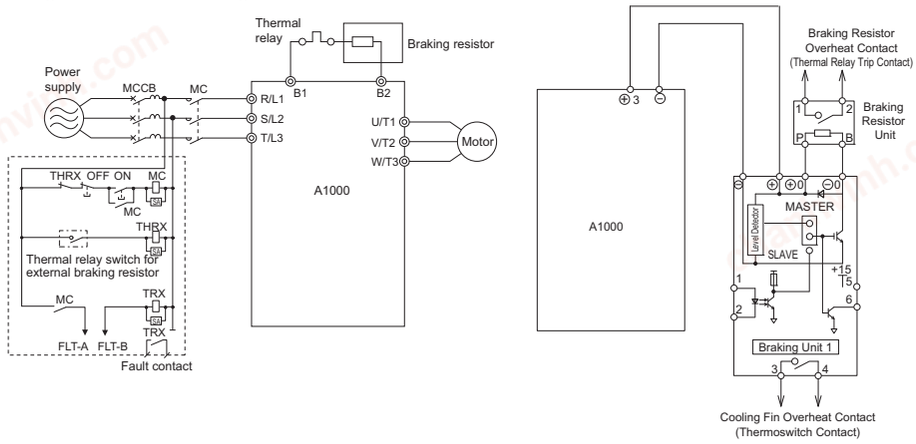
Three-phase 400 V class

Model Number CIMR-A□	Heavy Duty				Normal Duty			
	Rated Amps (A)	Heatsink Loss (W)	Interior Unit Loss (W)	Total Loss (W)	Rated Amps (A)	Heatsink Loss (W)	Interior Unit Loss (W)	Total Loss (W)
4A0002	1.8	15.9	45	61	2.1	20	48	68
4A0004	3.4	25	46	70	4.1	32	49	81
4A0005	4.8	37	49	87	5.4	45	53	97
4A0007	5.5	48	53	101	6.9	62	59	121
4A0009	7.2	53	55	108	8.8	66	60	126
4A0011	9.2	69	61	130	11.1	89	73	162
4A0018	14.8	135	86	221	17.5	177	108	285
4A0023	18.0	150	97	247	23	216	138	354
4A0031	24	208	115	323	31	295	161	455
4A0038	31	263	141	403	38	340	182	521
4A0044	39	330	179	509	44	390	209	599
4A0058	45	349	170	518	58	471	215	686
4A0072	60	484	217	701	72	605	265	870
4A0088	75	563	254	817	88	684	308	993
4A0103	91	723	299	1022	103	848	357	1205
4A0139	112	908	416	1325	139	1215	534	1749
4A0165	150	1340	580	1920	165	1557	668	2224
4A0208	180	1771	541	2313	208	1800	607	2408
4A0250	216	2360	715	3075	250	2379	803	3182
4A0296	260	2391	787	3178	296	2448	905	3353
4A0362	304	3075	985	4060	362	3168	1130	4298
4A0414	370	3578	1164	4742	414	3443	1295	4738
4A0515	450	3972	1386	5358	515	4850	1668	6518
4A0675	605	4191	1685	5875	675	4861	2037	6898
4A0930	810	6912	2455	9367	930	8476	2952	11428
4A1200	1090	7626	3155	10781	1200	8572	3612	12184

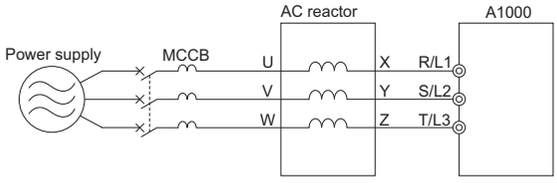
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Connections for braking unit and braking resistor

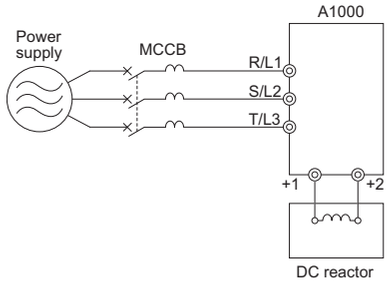


Input AC reactor



200 V class				400 V class			
Max. applicable motor output kW	Reference	Current value A	Inductance mH	Max. applicable motor output kW	Reference	Current value A	Inductance mH
0.4 to 1.5	AX-RAI02800080-DE	8.0	2.8	0.4 to 1.5	AX-RAI07700050-DE	5.0	7.7
2.2 to 4.0	AX-RAI00880200-DE	20.0	0.88	2.2 to 4.0	AX-RAI03500100-DE	10.0	3.5
5.5 to 7.5	AX-RAI00350335-DE	33.5	0.35	5.5 to 7.5	AX-RAI01300170-DE	17.0	1.3
11.0 to 15.0	AX-RAI00180670-DE	67.0	0.18	11.0 to 15.0	AX-RAI00740335-DE	33.5	0.74
18.5 to 22.0	AX-RAI00091000-DE	100.0	0.09	18.5 to 22.0	AX-RAI00360500-DE	50.0	0.36
30.0 to 37.0	AX-RAI00071550-DE	155.0	0.07	30.0 to 37.0	AX-RAI00290780-DE	78.0	0.29
45.0 to 55.0	AX-RAI00042300-DE	230.0	0.04	45.0 to 55.0	AX-RAI00191150-DE	115.0	0.19
75.0	-	360.0	0.026	75.0 to 90.0	AX-RAI00111850-DE	185.0	0.11
90.0	-	500.0	0.02	110.0 to 132.0	AX-RAI00072700-DE	270.0	0.07
110.0	-	600.0	0.02	160.0 to 220.0	-	490.0	0.04
-				315.0	-	660.0	0.03
				450.0	-	2 x 490.0	2 x 0.04
				500.0	-	2 x 490.0	2 x 0.04
				560.0	-	2 x 660.0	2 x 0.03
				630.0	-	2 x 660.0	2 x 0.03

DC reactor



200 V class				400 V class			
Max. applicable motor output kW	Reference	Current value A	Inductance mH	Max. applicable motor output kW	Reference	Current value A	Inductance mH
0.4	AX-RC10700032-DE	3.2	10.7	0.4	AX-RC43000020-DE	2.0	43.0
0.7	AX-RC06750061-DE	6.1	6.75	0.7	AX-RC27000030-DE	3.0	27.0
1.5	AX-RC03510093-DE	9.3	3.51	1.5	AX-RC14000047-DE	4.7	14.0
2.2	AX-RC02510138-DE	13.8	2.51	2.2	AX-RC10100069-DE	6.9	10.1
3.7	AX-RC01600223-DE	22.3	1.60	4.0	AX-RC06400116-DE	11.6	6.4
5.5	AX-RC01110309-DE	30.9	1.11	5.5	AX-RC04410167-DE	16.7	4.41
7.5	AX-RC00840437-DE	43.7	0.84	7.5	AX-RC03350219-DE	21.9	3.35
11.0	AX-RC00590614-DE	61.4	0.59	11.0	AX-RC02330307-DE	30.7	2.33
15.0	AX-RC00440859-DE	85.9	0.44	15.0	AX-RC01750430-DE	43.0	1.75
18.5	AX-RC00301275-DE	127.5	0.30	18.5	AX-RC01200644-DE	64.4	1.20
22.0 to 110.0	Built-in			22.0 to 630.0	Built-in		

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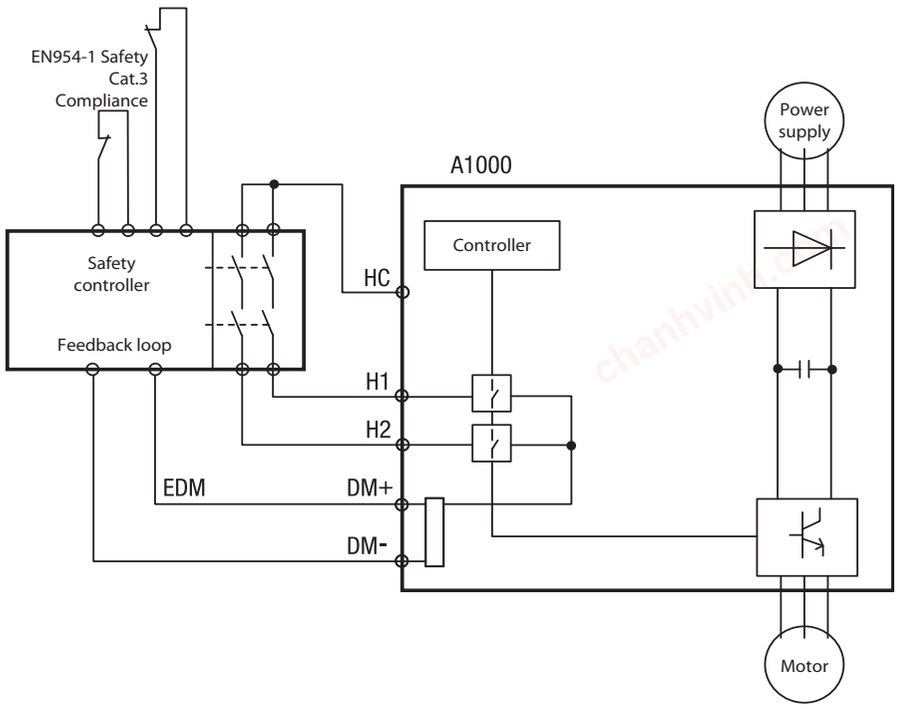
Output AC reactor

200 V class				400 V class			
Max. applicable motor output kW*1	Reference	Current value A	Inductance mH	Max. applicable motor output kW*1	Reference	Current value A	Inductance mH
0.4	AX-RAO11500026-DE	2.6	11.5	0.4 to 1.5	AX-RAO16300038-DE	3.8	16.3
0.75	AX-RAO07600042-DE	4.2	7.6	2.2	AX-RAO11800053-DE	5.3	11.8
1.5	AX-RAO04100075-DE	7.5	4.1	4.0	AX-RAO07300080-DE	8.0	7.3
2.2	AX-RAO03000105-DE	10.5	3.0	5.5	AX-RAO04600110-DE	11.0	4.6
3.7	AX-RAO01830160-DE	16.0	1.83	7.5	AX-RAO03600160-DE	16.0	3.6
5.5	AX-RAO01150220-DE	22.0	1.15	11.0	AX-RAO02500220-DE	22.0	2.5
7.5	AX-RAO00950320-DE	32.0	0.95	15.0	AX-RAO02000320-DE	32.0	2.0
11.0	AX-RAO00630430-DE	43.0	0.63	18.5	AX-RAO01650400-DE	40.0	1.65
15.0	AX-RAO00490640-DE	64.0	0.49	22.0	AX-RAO01300480-DE	48.0	1.3
18.5	AX-RAO00390800-DE	80.0	0.39	30.0	AX-RAO01030580-DE	58.0	1.03
22.0	AX-RAO00330950-DE	95.0	0.33	37.0	AX-RAO00800750-DE	75.0	0.8
30.0	AX-RAO00251210-DE	121.0	0.25	45.0	AX-RAO00680900-DE	90.0	0.68
37.0	AX-RAO00191450-DE	145.0	0.19	55.0	AX-RAO00531100-DE	110.0	0.53
45.0	AX-RAO00161820-DE	182.0	0.16	75.0	AX-RAO00401490-DE	149.0	0.4
55.0	AX-RAO00132200-DE	220.0	0.13	90.0	AX-RAO00331760-DE	176.0	0.33
75.0 to 110.0	-	-	-	110.0	AX-RAO00262170-DE	217.0	0.26
-				132.0	AX-RAO00212600-DE	260.0	0.21
				160.0 to 630.0	-	-	-

*1. The motor sizes are for heavy duty applications.

Safety System

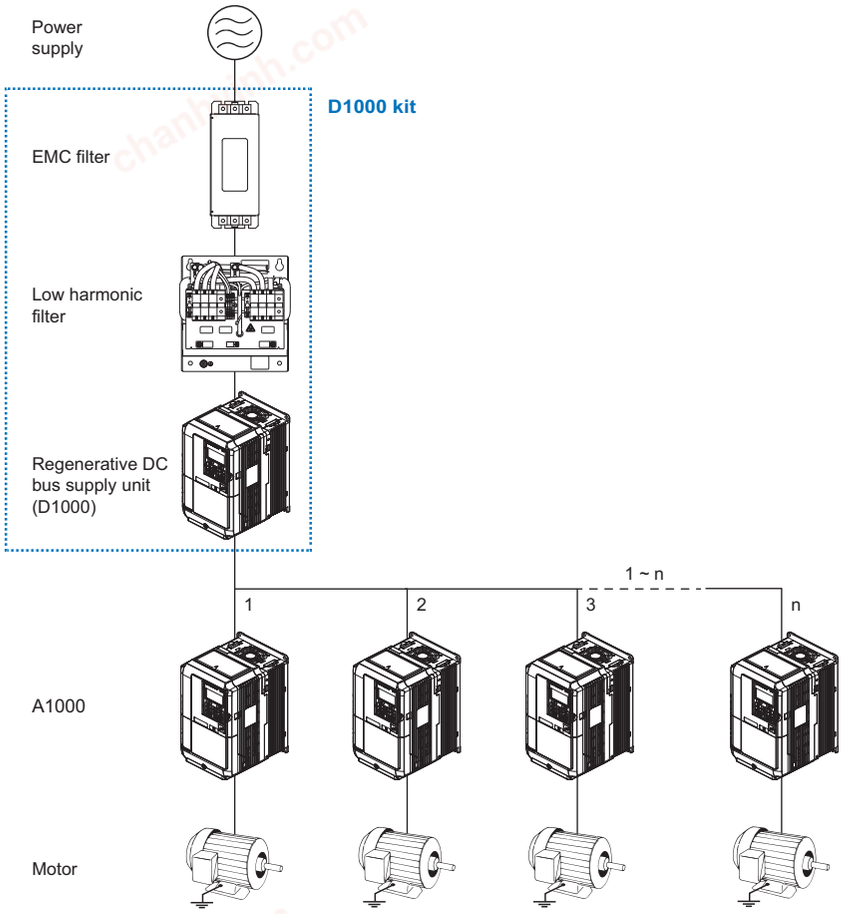
- A1000 provides Safe Torque Off (STO) functional safety in compliance with EN954-1 safety category 3 stop category 0, EN ISO 13849-1, PLC, IEC/EN61508 SIL2.
- An External Device Monitor (EDM) function has also been added to monitor the safety status of the drive.



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D1000 kit - DC Supply with Regenerative Active Front End system



Regenerative DC bus supply unit (D1000)

Reference: CIMR-DC□	4A0005	4A0010	4A0020	4A0030	4A0040	4A0060	4A0100	4A0130	4A0185	4A0270	4A0370	4A0630
Max. applicable motor capacity (kW)	3.7	7.5	15	22	30	45	75	110	160	220	315	560
Rated output capacity (kW)[1]	5	10	20	30	40	60	100	130	185	270	370	630
Rated input current AC (A)	8	16	30	43	58	86	145	210	300	410	560	1040
Rated output current DC (A)	8	15	30	45	61	91	152	197	280	409	561	955
Rated input voltage	3-phase 380 to 480 VAC											
Rated output voltage	660 VDC											
Rated frequency	50/60 Hz											
Input power factor	> 0.99											
Carrier frequency	6						4			2		
Degree of protection	IP20 (CIMR-DC4A0005 to CIMR-DC4A0020 models) IP00 (CIMR-DC4A0030 to CIMR-DC4A0630 models)											
Ambient humidity	95% RH or less (without condensation)											
Storage temperature	-20 to 60ºC											
Ambient temperature	-10 to 50ºC											

1. Rated output capacity is calculated with a rated input voltage of 400 V.

EMC filter

Reference: B84143□	A0020R106	A0035R106	A0065R106	B0180S080	B0400S080	B1000S080	B1600S080
Rated current (A)	20	35	65	180	400	1000	1600
Leakage current (mA)	3.1	3.4	3.4	< 21	< 21	< 40	< 40
Rated voltage	300/520 VAC						
Rated frequency	50/60 Hz						
Rated temperature	50ºC						
Degree of protection	IP20						

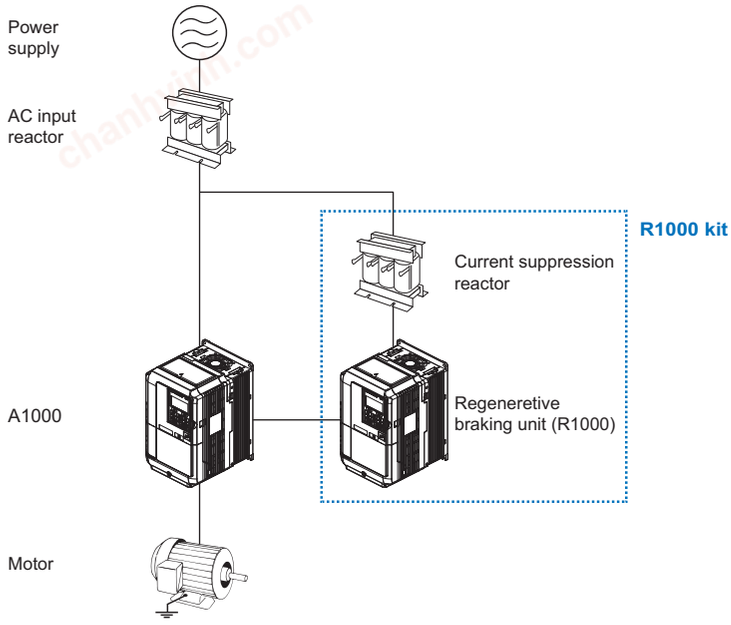
Low harmonic filter

Reference: B84143G□	0008R176	0016R176	0030R176	0043R176	0058R176	0086R176	0145R176	0210S176	0300S176	0410S176	0560S176	1140S176
Rated current (A)	8	16	30	43	58	86	145	210	300	410	560	1140
Heat loss (W)[1]	75	140	165	240	260	300	515	665	855	1398	1970	4015
Rated voltage	305/530 VAC											
Rated frequency	50/60 Hz											
Rated temperature	50ºC											
Degree of protection	IP00											

1. Heat loss at nominal current and 20ºC winding temperature with harmonics.

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R1000 kit - Regenerative Braking unit system



Regenerative Braking unit (R1000)

Reference: CIMR-RC□	4A03P5	4A0005	4A0007	4A0010	4A0014	4A0017	4A0020	4A0028	4A0035	4A0043	4A0053	4A0073	4A0105	4A0150	4A0210	4A0300
Max. applicable motor capacity (kW)	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	110	160	220	315
Rated output capacity (kW)[1]	3.5	5	7	10	14	17	20	28	35	43	53	73	105	150	210	300
Rated input current AC (A)	5	8	11	16	22	27	32	43	54	66	81	110	161	237	326	466
Rated output current DC (A)	7	11	15	22	30	36	43	58	73	89	109	149	217	320	440	629
Rated input voltage	3-phase 380 to 480 VAC															
Rated frequency	50/60 Hz															
Power factor	> 0.9 at full load															
Degree of protection	IP20 (CIMR-RC4A03P5 to CIMR-RC4A0028 models) IP00 (CIMR-RC4A0035 to CIMR-RC4A0300 models)															
Ambient humidity	95% RH or less (without condensation)															
Storage temperature	-20 to 60ºC															
Ambient temperature	-10 to 50ºC															

1. Rated output capacity is calculated with a rated input voltage of 400 V.

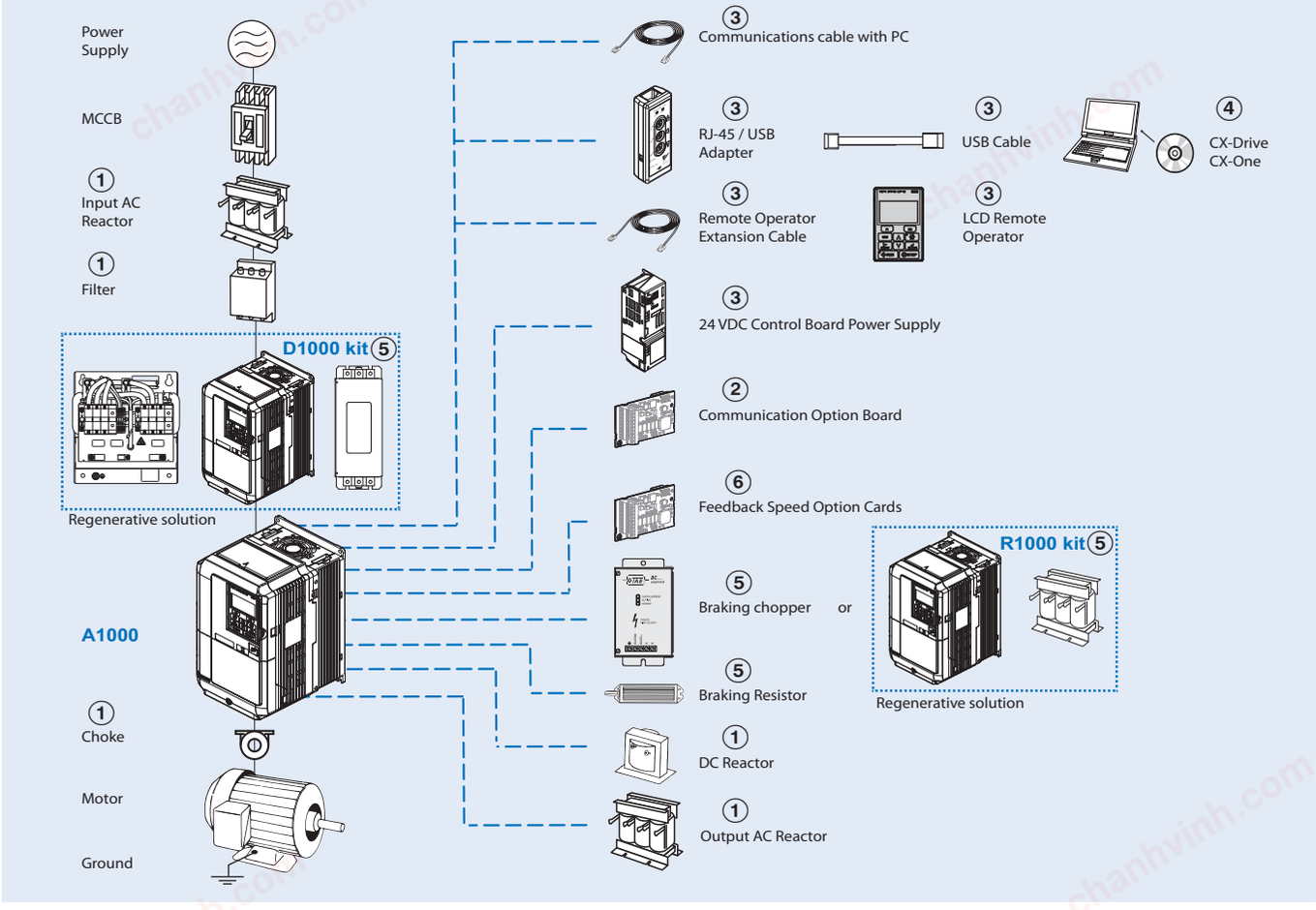
Current suppression reactor

Reference: B150□	9105	9106	9107	9108	9109	9110	4118	9111	9112	9113	9114	5002	5008	5011
Rated current (A)	7.5	10	15	25	30	40	50	60	75	100	161	237	326	466
Inductance (mH)	1.2	0.6	0.4	0.3	0.2	0.15	0.12	0.1	0.08	0.06	0.04	0.03	0.02	0.013
Heat loss (W)	21	19	23	36	33	40	46	56	81	72	95	105	120	160

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Ordering information



A1000

Specifications					Model
Voltage	Heavy Duty		Normal Duty		Standard
200 V	0.55 kW	3.2 A	0.75 kW	3.5 A	CIMR-AC2A0004FAA
	1.1 kW	5.0 A	1.1 kW	6.0 A	CIMR-AC2A0006FAA
	1.5 kW	8.0 A	2.2 kW	9.6 A	CIMR-AC2A0010FAA
	2.2 kW	11.0 A	3.0 kW	12.0 A	CIMR-AC2A0012FAA
	4.0 kW	17.5 A	5.5 kW	21.0 A	CIMR-AC2A0021FAA
	5.5 kW	25.0 A	7.5 kW	30.0 A	CIMR-AC2A0030FAA
	7.5 kW	33.0 A	11.0 kW	40.0 A	CIMR-AC2A0040FAA
	11 kW	47.0 A	15.0 kW	56.0 A	CIMR-AC2A0056FAA
	15 kW	60.0 A	18.5 kW	69.0 A	CIMR-AC2A0069FAA
	18.5 kW	75 A	22 kW	81 A	CIMR-AC2A0081FAA
	22 kW	85 A	30 kW	110 A	CIMR-AC2A0110AAA
	30 kW	115 A	37 kW	138 A	CIMR-AC2A0138AAA
	37 kW	145 A	45 kW	169 A	CIMR-AC2A0169AAA
	45 kW	180 A	55 kW	211 A	CIMR-AC2A0211AAA
	55 kW	215 A	75 kW	250 A	CIMR-AC2A0250AAA
	75 kW	283 A	90 kW	312 A	CIMR-AC2A0312AAA
	90 kW	346 A	110 kW	360 A	CIMR-AC2A0360AAA
	110 kW	415 A	110 kW	415 A	CIMR-AC2A0415AAA

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Specifications					Model
Voltage	Heavy Duty		Normal Duty		Standard
400 V	0.55 kW	1.8 A	0.75 kW	2.1 A	CIMR-AC4A0002FAA
	1.1 kW	3.4 A	1.5 kW	4.1 A	CIMR-AC4A0004FAA
	1.5 kW	4.8 A	2.2 kW	5.4 A	CIMR-AC4A0005FAA
	2.2 kW	5.5 A	3.0 kW	6.9 A	CIMR-AC4A0007FAA
	3.0 kW	7.2 A	4.0 kW	8.8 A	CIMR-AC4A0009FAA
	4.0 kW	9.2 A	5.5 kW	11.1 A	CIMR-AC4A0011FAA
	5.5 kW	14.8 A	7.5 kW	17.5 A	CIMR-AC4A0018FAA
	7.5 kW	18.0 A	11.0 kW	23.0 A	CIMR-AC4A0023FAA
	11 kW	24.0 A	15.0 kW	31.0 A	CIMR-AC4A0031FAA
	15 kW	31.0 A	18.5 kW	38.0 A	CIMR-AC4A0038FAA
	18.5 kW	39 A	22 kW	44 A	CIMR-AC4A0044FAA
	22 kW	45 A	30 kW	58 A	CIMR-AC4A0058AAA
	30 kW	60 A	37 kW	72 A	CIMR-AC4A0072AAA
	37 kW	75 A	45 kW	88 A	CIMR-AC4A0088AAA
	45 kW	91 A	55 kW	103 A	CIMR-AC4A0103AAA
	55 kW	112 A	75 kW	139 A	CIMR-AC4A0139AAA
	75 kW	150 A	90 kW	165 A	CIMR-AC4A0165AAA
	90 kW	180 A	110 kW	208 A	CIMR-AC4A0208AAA
	110 kW	216 A	132 kW	250 A	CIMR-AC4A0250AAA
	132 kW	260 A	160 kW	296 A	CIMR-AC4A0296AAA
	160 kW	304 A	185 kW	362 A	CIMR-AC4A0362AAA
	185 kW	370 A	220 kW	414 A	CIMR-AC4A0414AAA
	220 kW	450 A	250 kW	515 A	CIMR-AC4A0515AAA
	315 kW	605 A	355 kW	675 A	CIMR-AC4A0675AAA
	450 kW	810 A	500 kW	930 A	CIMR-AC4A0930AAA
	560 kW	1090 A	630 kW	1200 A	CIMR-AC4A1200AAA

① Line filters

Inverter		Line filter					
		Rasmi			Schaffner		
Voltage	Model CIMR-AC□ (Normal duty)	Reference	Current (A)	Weight (kg)	Reference	Current (A)	Weight (kg)
3-Phase 200 VAC	2A0004 / 2A0006	A1000-FIA3024-RE	24	2.0	3G3RV-PFI3010-SE	10	1.2
	2A0010 / 2A0012 / 2A0021				3G3RV-PFI3018-SE	18	1.3
	2A0030 / 2A0040	A1000-FIA2052-RE	52	2.4	3G3RV-PFI2035-SE	35	1.4
	2A0056	A1000-FIA2068-RE	68	4.2			
	2A0069 / 2A0081	A1000-FIA2096-RE	96	4.4	3G3RV-PFI2060-SE	60	3.0
	2A0110 / 2A0138	A1000-FIA3170-RE	170	9.0	3G3RV-PFI2100-SE	100	4.9
	2A0169				3G3RV-PFI3170-SE	170	6.0
	2A0211	A1000-FIA3300-RE	300	13.2			
	2A0250				-	-	-
	2A0312 / 2A0360 / 2A0415	A1000-FIA3480-RE	480	13.6	-	-	-
3-Phase 400 VAC	4A0002 / 4A0004 / 4A0005 / 4A0007	A1000-FIA3024-RE	24	2.0	3G3RV-PFI3010-SE	10	1.2
	4A0009 / 4A0011				3G3RV-PFI3018-SE	18	1.3
	4A0018 / 4A0023				3G3RV-PFI3035-SE	35	2.2
	4A0031	A1000-FIA3044-RE	44	2.8			
	4A0038				3G3RV-PFI3060-SE	60	4.0
	4A0044	A1000-FIA3052-RE	52	3.9			
	4A0058	A1000-FIA3071-RE	71	5.3			
	4A0072				3G3RV-PFI3100-SE	100	4.5
	4A0088	A1000-FIA3105-RE	105	6.5			
	4A0103				3G3RV-PFI3170-SE	170	6.0
	4A0139 / 4A0165	A1000-FIA3170-RE	170	9.0			
	4A0208 / 4A0250	A1000-FIA3300-RE	300	13.2	3G3RV-PFI3200-SE	250	11.0
	4A0296				3G3RV-PFI3400-SE	400	8.5
	4A0362	A1000-FIA3480-RE	480	13.6			
	4A0414 / 4A0515				3G3RV-PFI3600-SE	600	11.0
	4A0675	A1000-FIA3660-RE	660	23.7	3G3RV-PFI3800-SE	800	31.0
	4A0930 / 4A1200	-	-	-	-	-	-

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① Input AC reactors

3-phase 200 VAC		3-phase 400 VAC	
Model CIMR-AC□	Input AC reactor	Model CIMR-AC□	Input AC reactor
2A0004 / 2A0006 / 2A0010	AX-RAI02800100-DE	4A0002 / 4A0004 / 4A0005	AX-RAI07700050-DE
2A0012 / 2A0021	AX-RAI00880200-DE	4A0007 / 4A0009 / 4A0011	AX-RAI03500100-DE
2A0030 / 2A0040	AX-RAI00350335-DE	4A0018 / 4A0023	AX-RAI01300170-DE
2A0056 / 2A0069	AX-RAI00180670-DE	4A0031 / 4A0038	AX-RAI00740335-DE
2A0081 / 2A0110	AX-RAI00091000-DE	4A0044 / 4A0058	AX-RAI00360500-DE
2A0138 / 2A0169	AX-RAI00071550-DE	4A0072 / 4A0088	AX-RAI00290780-DE
2A0211 / 2A0250	AX-RAI00042300-DE	4A0103 / 4A0139	AX-RAI00191150-DE
2A0312 / 2A0360 / 2A0415	-	4A0165 / 4A0208	AX-RAI00111850-DE
-		4A0250 / 4A0296	AX-RAI00072700-DE
		4A0362 / 4A0414 / 4A0515 / 4A0675 4A0930 / 4A1200	-

① DC reactors

3-phase 200 VAC		3-phase 400 VAC	
Model CIMR-AC□	DC Reactor	Model CIMR-AC□	DC Reactor
2A0004	AX-RC10700032-DE	4A0002	AX-RC43000020-DE
2A0006	AX-RC06750061-DE	4A0004	AX-RC27000030-DE
2A0010	AX-RC03510093-DE	4A0005	AX-RC14000047-DE
2A0012	AX-RC02510138-DE	4A0007	AX-RC10100069-DE
2A0021	AX-RC01600223-DE	4A0009 / 4A0011	AX-RC06400116-DE
2A0030	AX-RC01110309-DE	4A0018	AX-RC04410167-DE
2A0040	AX-RC00840437-DE	4A0023	AX-RC03350219-DE
2A0056	AX-RC00590614-DE	4A0031	AX-RC02330307-DE
2A0069	AX-RC00440859-DE	4A0038	AX-RC01750430-DE
2A0081	AX-RC00301275-DE	4A0044	AX-RC01200644-DE

① Output AC reactors

3-phase 200 VAC		3-phase 400 VAC	
Model CIMR-AC□	Output AC reactor	Model CIMR-AC□	Output AC reactor
2A0004	AX-RAO11500026-DE	4A0002 / 4A0004 / 4A0005	AX-RAO16300038-DE
2A0006	AX-RAO07600042-DE	4A0007	AX-RAO11800053-DE
2A0010	AX-RAO04100075-DE	4A0009 / 4A0011	AX-RAO07300080-DE
2A0012	AX-RAO03000105-DE	4A0018	AX-RAO04600110-DE
2A0021	AX-RAO01830160-DE	4A0023	AX-RAO03600160-DE
2A0030	AX-RAO01150220-DE	4A0031	AX-RAO02500220-DE
2A0040	AX-RAO00950320-DE	4A0038	AX-RAO02000320-DE
2A0056	AX-RAO00630430-DE	4A0044	AX-RAO01650400-DE
2A0069	AX-RAO00490640-DE	4A0058	AX-RAO01300480-DE
2A0081	AX-RAO00390800-DE	4A0072	AX-RAO01030580-DE
2A0110	AX-RAO00330950-DE	4A0088	AX-RAO00800750-DE
2A0138	AX-RAO00251210-DE	4A0103	AX-RAO00680900-DE
2A0169	AX-RAO00191450-DE	4A0139	AX-RAO00531100-DE
2A0211	AX-RAO00161820-DE	4A0165	AX-RAO00401490-DE
2A0250	AX-RAO00132200-DE	4A0208	AX-RAO00331760-DE
2A0312 / 2A0360 / 2A0415	-	4A0250	AX-RAO00262170-DE
-		4A0296	AX-RAO00212600-DE
		4A0362 / 4A0414 / 4A0515 / 4A0675 4A0930 / 4A1200	-

Note: This table corresponds with HD rating. When ND is used, please choose the reactor for the next size inverter.

① Chokes

Model	Diameter	Description
AX-FER2102-RE	21	For 2.2 KW motors or below
AX-FER2515-RE	25	For 15 KW motors or below
AX-FER5045-RE	50	For 45 KW motors or below
AX-FER6055-RE	60	For 55 KW motors or below

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② Communication cards

Type	Model	Description	Function
Communication option board	SI-N3	DeviceNet option card	• Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through DeviceNet communication with the host controller.
	SI-P3	PROFIBUS-DP option card	• Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through PROFIBUS-DP communication with the host controller.
	SI-S3	CANopen option card	• Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CANopen communication with the host controller.
	SI-T3	MECHATROLINK-II option card	• Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through MECHATROLINK-II communication with the host controller.
	SI-ES3	EtherCAT option card	• Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through EtherCAT communication with the host controller.
	SI-EP3	PROFINET option card	• Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through PROFINET communication with the host controller.
	SI-EN3	EtherNet/IP option card*1	• Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through EtherNet/IP communication with the host controller.

*1. EtherNet/IP option card not available for CIMR-AC4A0930 and CIMR-AC4A1200 models.

③ Accessories

Types	Model	Description	Functions
Digital operator	JVOP-180	LCD remote operator	LCD Display operator with language support
	3G3AX-CAJOP300-EE	Remote operator cable	3 meters cable for connecting remote operator
Accessories	JVOP-181	USB converter / USB cable	USB converter unit with copy and backup function
	PS-A10LB	24 VDC option board	24V DC control board power supply, 200 V class
	PS-A10HB		24V DC control board power supply, 400 V class
	A1000-CAVPC232-EE	PC connection cable	RS232 PC tool connection cable

④ Computer software

Types	Model	Description	Installation
Software	CX-Drive	Computer software	Configuration and monitoring software tool
	CX-One	Computer software	Configuration and monitoring software tool

⑤ D1000 kit - DC Supply with Regenerative Active Front End

Rated power kW	D1000 kit			
	Regenerative DC bus supply unit (D1000)*1	EMC filter*1	Low harmonic filter*1	Kit code
5	CIMR-DC4A0005BAA	B84143A0020R106	B84143G0008R176	D1KIT40005AAAAB
10	CIMR-DC4A0010BAA		B84143G0016R176	D1KIT40010AAAAB
20	CIMR-DC4A0020BAA	B84143A0035R106	B84143G0030R176	D1KIT40020AAAAB
30	CIMR-DC4A0030AAA	B84143A0065R106	B84143G0043R176	D1KIT40030AAAAB
40	CIMR-DC4A0040AAA		B84143G0058R176	D1KIT40040AAAAB
60	CIMR-DC4A0060AAA	B84143B0180S080	B84143G0086R176	D1KIT40060AAAAB
100	CIMR-DC4A0100AAA		B84143G0145R176	D1KIT40100AAAAB
130	CIMR-DC4A0130AAA	B84143B0400S080	B84143G0210S176	D1KIT40130AAAAB
185	CIMR-DC4A0185AAA		B84143G0300S176	D1KIT40185AAAAB
270	CIMR-DC4A0270AAA	B84143B1000S080	B84143G0410S176	D1KIT40270AAAAB
370	CIMR-DC4A0370AAA		B84143G0560S176	D1KIT40370AAAAB
630	CIMR-DC4A0630AAA	B84143B1600S080	B84143G1140S176	D1KIT40630AAAAB

*1. It is not possible to purchase the Regenerative DC bus supply unit (D1000), EMC filter and low harmonic filter as a separate items.

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⑤ R1000 kit - Regenerative Braking unit

Rated power kW	R1000 kit		
	Regenerative braking unit (R1000)*1	Current suppression reactor (1%)*1	Kit code
3.5	CIMR-RC4A03P5FAA	B1509105	R1KIT40003AAAAA
5	CIMR-RC4A0005FAA		R1KIT40005AAAAA
7	CIMR-RC4A0007FAA	B1509106	R1KIT40007AAAAA
10	CIMR-RC4A0010FAA	B1509107	R1KIT40010AAAAA
14	CIMR-RC4A0014FAA	B1509108	R1KIT40014AAAAA
17	CIMR-RC4A0017FAA		R1KIT40017AAAAA
20	CIMR-RC4A0020FAA	B1509109	R1KIT40020AAAAA
28	CIMR-RC4A0028FAA	B1509110	R1KIT40028AAAAA
35	CIMR-RC4A0035AAA	B1504118	R1KIT40035AAAAA
43	CIMR-RC4A0043AAA	B1509111	R1KIT40043AAAAA
53	CIMR-RC4A0053AAA	B1509112	R1KIT40053AAAAA
73	CIMR-RC4A0073AAA	B1509113	R1KIT40073AAAAA
105	CIMR-RC4A0105AAA	B1509114	R1KIT40105AAAAA
150	CIMR-RC4A0150AAA	B1505002	R1KIT40150AAAAA
210	CIMR-RC4A0210AAA	B1505008	R1KIT40210AAAAA
300	CIMR-RC4A0300AAA	B1505011	R1KIT40300AAAAA

*1. It is not possible to purchase the Regenerative braking unit (R1000) and current suppression reactor as a separate items.

⑤ Braking unit, braking resistor unit

Inverter			Braking unit		Braking Resistor[1] (10% ED)				Connectable min. resistance Ω
	Max. Applicable Motor kW	Model CIMR-A□□A_	Model	Qty	Model	Specifications of Resistor		Qty	
200 V Class	0.4	0004 HD	Built-in		AX-REM00K2070-IE	200W	70Ω	1	48
	0.75	0004 ND							48
		0006 HD							
	1.1	0006 ND							48
		0008 HD			AX-REM00K4075-IE	400W	75Ω	1	
	1.5	0008 ND							48
		0010 HD							
	2.2	0010 ND							48
		0012 HD			AX-REM00K4035-IE	400W	35Ω	1	16
	3.0	0012 ND							16
		0018 HD							
	3.7	0018 ND							16
		0021 HD							
	5.5	0021 ND			AX-REM00K6035-IE	600W	35Ω	1	16
		0030 HD							
	7.5	0030 ND			AX-REM00K9020-IE	900W	20Ω	1	16
		0040 HD							9.6
	11	0040 ND			AX-REM02K1017-IE	2100W	17Ω	1	9.6
		0056 HD							
	15	0056 ND			AX-REM03K5010-IE	3500W	10Ω	1	9.6
		0069 HD							
	18.5	0069 ND							9.6
		0081 HD							
	22	0081 ND							9.6
		0110 HD			AX-REM19K0008-IE	19000W	8Ω	1	6.4
	30	0110 ND							6.4
		0138 HD							
	37	0138 ND							6.4
		0169 HD	AX-BCR2035090-TE	1					
	45	0169 ND	AX-BCR2070130-TE	1					6.4
		0211 HD							
	55	0211 ND							6.4
		0250 HD							
	75	0250 ND	AX-BCR2035090-TE	2	AX-REM19K0006-IE	19000W	6Ω	1	1.6
		0312 HD							
	90	0312 ND	AX-BCR2070130-TE	2				2	1.6
		0360 HD							
	110	0360 ND	AX-BCR2035090-TE	3					1.6
		0415 HD							

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Inverter			Braking unit		Braking Resistor[1] (10% ED)				Connectable min. resistance Ω
	Max. Applicable Motor kW	Model CIMR-A□□A_	Model	Qty	Model	Specifications of Resistor		Qty	
400 V Class	0.4	0002 HD	Built in		AX-REM00K1200-IE	100W	200Ω	1	96
	0.75	0002 ND							96
		0004 HD							
	1.5	0004 ND			AX-REM00K2200-IE	200W	200Ω	1	96
		0005 HD							64
	2.2	0005 ND							64
		0007 HD							
	3.0	0007 ND							64
		0009 HD			AX-REM00K4075-IE	400W	75Ω	1	32
	3.7	0009 ND							32
		0011 HD							
	5.5	0011 ND			AX-REM00K6100-IE	600W	100Ω	1	32
		0018 HD							
	7.5	0018 ND			AX-REM00K9070-IE	900W	70Ω	1	32
		0023 HD							
	11	0023 ND			AX-REM01K9070-IE	1900W	70Ω	1	32
		0031 HD							20
	15	0031 ND			AX-REM03K5035-IE	3500W	35Ω	1	20
		0038 HD							
	18.5	0038 ND			AX-REM19K0030-IE	19000W	30Ω	1	20
		0044 HD							19.2
	22	0044 ND							19.2
		0058 HD							
	30	0058 ND			AX-REM19K0020-IE	19000W	20Ω	1	19.2
		0072 HD							
	37	0072 ND							19.8
		0088 HD	AX-BCR4017068-TE	1					12.8
	45	0088 ND							12.8
		0103 HD							
	55	0103 ND	AX-BCR4035090-TE	1					12.8
		0139 HD			AX-REM19K0030-IE	19000W	30Ω	1	19.2
	75	0139 ND							19.2
		0165 HD			AX-REM19K0020-IE	19000W	20Ω	1	12.8
	90	0165 ND	AX-BCR4070130-TE	1					12.8
		0208 HD							
	110	0208 ND	AX-BCR4090240-TE	1	AX-REM19K0006-IE	19000W	6Ω	1	3.2
		0250 HD							
	132	0250 ND			AX-REM38K0012-IE	38000W	12Ω	1	3.2
		0296 HD							
	160	0296 ND	AX-BCR4035090-TE	2					3.2
		0362 HD							
	185	0362 ND	AX-BCR4070130-TE	2					3.2
		0414 HD							
	220	0414 ND	AX-BCR4090240-TE	2	AX-REM19K0006-IE	19000W	6Ω	3	3.2
		0515 HD							
	250	0515 ND							3.2
	315	0675 HD		3					3.2
	355	0675 ND							3.2

1. When connecting a mounting type resistor or braking resistor unit, set system constant L3-04 to 0 (Stall prevention disabled during deceleration). Motor will not stop at set deceleration time if this constant is not changed. Additionally the Internal braking transistor protection (L8-55) should be set to “0” when a external braking unit (CDBR-) is used.

⑥ Feedback speed option card

Type	Model	Description	Function
PG option card	PG-B3	Motor PG feedback open collector interface	• For speed feedback input by connecting a motor encoder Input: 3 track (one or two tracks), for HTL encoder connection, 50 KHz max Output: 3 track, open collector Encoder power supply: 12 V, 200 mA max
	PG-X3	Motor PG feedback line driver interface	• For speed feedback input by connecting a motor encoder Input: 3 track (one or two tracks), line driver, 300 kHz max Output: 3 track, line driver Encoder power supply: 5 V or 12 V, 200 mA max
	PG-F3[1]	EnDat encoder	• For speed feedback input by connecting a motor encoder Encoder type: EnDat 2.1/01, EnDat 2.2/01, EnDat 2.2/22 (HEIDENHAIN) Maximum input frequency: 50 kHz Pulse monitor: Matches RS-422 level Output voltage: 5V±5%, 8V±10% Maximum output current: 200 mA Wiring length: 20 m max. for the encoder, 30 m max. for the pulse monitor
	PG-RT3	Motor feedback resolver interface	• For motor speed feedback by connecting a resolver (TS2640N321E64 by Tamagawa Seiki Co., LTD) Input voltage: 7 VAC rms 10 kHz Transformation ratio: 0.5±5% Maximum input current: 100 mA rms

1. This option card can only be used in CLV/PM.

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

Cat. No. I79E-EN-04D

In the interest of product improvement, specifications are subject to change without notice.