

Specifications

200 V Class*1

Model CIMR-G7A	20P4	20P7	21P5	22P2	23P7	25P5	27P5	2011	2015	2018	2022	2030	2037	2045	2055	2075	2090	2110		
Max. Applicable Motor Output*2	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 Characteristics	Inverter Capacity	kVA	1.2	2.3	3.0	4.6	6.9	10	13	19	25	30	37	50	61	70	85	110	140	160
	Rated Current	A	3.2	6	8	12	18	27	34	49	66	80	96	130	160	183	224	300	358	415
	Max. Voltage	3-phase, 200/208/220/230/240 V (Proportional to input voltage)																		
Power Supply	Max. Frequency	400Hz by constant setting*3																		
	Rated Input Voltage and Frequency	Three-phase AC power supply: 200/208/220/230/240 V, 50/60 Hz*4 DC power supply: 270 to 340 V*5																		
	Allowable Voltage Fluctuation	+10%, -15%																		
	Allowable Frequency Fluctuation	±5%																		
Harmonic Wave Prevention	DC Reactor	Option									Provided									
	12-Pulse Input	Not available									Available*6									
Environmental Conditions	Vibration	9.8 m/s ² at 10Hz to 20Hz or below, up to 5.9 m/s ² at 20Hz to 55Hz													9.8 m/s ² at 10Hz to 20Hz or below, up to 2.0 m/s ² at 20Hz to 55Hz					

*1 The main circuit of 200V class inverters uses 2-level control method.

*2 Our standard 4-pole motors are used for max. applicable motor output. Choose the inverter whose rated current is within the motor rated current range.

*3 The setting range for open-loop vector control 2 is 0 to 66Hz (for PROG: 103□□, 0 to 132Hz).

*4 When using the inverter of 200 V 30 kW or more with a cooling fan of 3-phase 230 V 50 Hz or 240 V 50/60 Hz power supply, a transformer for the cooling fan is required.

*5 Not compliant with UL or CE standards when using a DC power supply.

*6 Customer must provide a 3-winding transformer when using 12-pulse input.

400 V Class*1

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 Output*2	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 Characteristics	Inverter 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	250	280	340	460
	Rated 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
	Max. Voltage	3-phase, 380/400/415/440/460/480 V (Proportional to input voltage)																							
Power Supply	Max. Frequency	400Hz by constant setting*3																							
	Rated Input Voltage and Frequency	Three-phase AC power supply: 380/400/415/440/460/480V, 50/60 Hz DC power supply: 510 to 680 V*4																							
	Allowable Voltage Fluctuation	+10%, -15%																							
	Allowable Frequency Fluctuation	±5%																							
Harmonic Wave Prevention	DC Reactor	Option									Provided														
	12-Pulse Input	Not available									Available*5														
Environmental Conditions	Vibration	9.8 m/s ² at 10Hz to 20Hz or below, up to 5.9 m/s ² at 20Hz to 55Hz													9.8 m/s ² at 10Hz to 20Hz or below, up to 2.0 m/s ² at 20Hz to 55Hz										

*1 The main circuit of 400V class inverters uses 3-level control method.

*2 Our standard 4-pole motors are used for max. applicable motor output. Choose the inverter whose rated current is within the motor rated current range.

*3 The setting range for open-loop vector control 2 is 0 to 66Hz (for PROG: 103□□, 0 to 132Hz). The maximum output frequency is 250Hz for 90kW to 110kW and 166Hz for 132kW to 300kW inverters.

*4 Not compliant with UL or CE standards when using a DC power supply.

*5 Customer must provide a 3-winding transformer when using 12-pulse input.

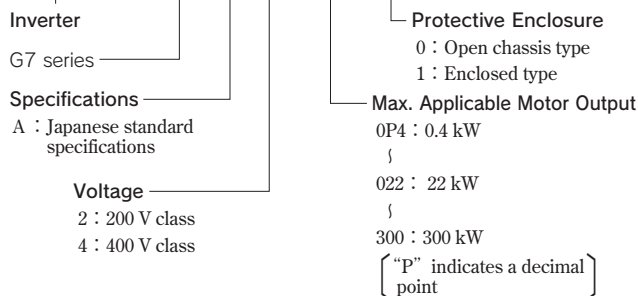
Enclosures

200 V Class	Model CIMR-G7A	20P4	20P7	21P5	22P2	23P7	25P5	27P5	2011	2015	2018	2022	2030	2037	2045	2055	2075	2090	2110					
200 V Class	Enclosed Type [NEMA1(Type1)]	Available as standard									Available for option									Not available				
	Open Chassis Type (IEC IP00)	Available by removing the upper and lower cover of enclosed type									Available as standard													
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
400 V Class	Enclosed Type [NEMA1(Type1)]	Available as standard									Available for option									Not available				
	Open Chassis Type (IEC IP00)	Available by removing the upper and lower cover of enclosed type									Available as standard													

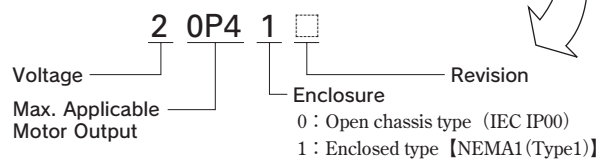
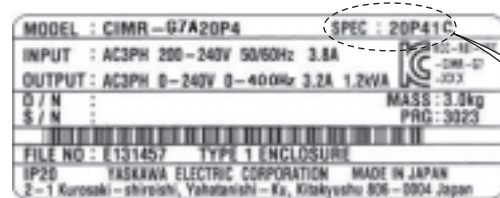
Enclosed type [NEMA1(Type1)] : Provides a clean and ventilated environment within the enclosure. Front and rear panels are firmly secured (e.g. front, rear, right, left, top, bottom).
Open chassis type (IEC IP00) : Designed for mounting in a customer's enclosure. Constructed so that openings do not permit direct or inadvertent access to live parts by personnel.

Model Designation

CIMR - G7 A 2 0P4 0



Name Plate Example



200/400 V Class

Control Characteristics	Control Method	Sine wave PWM [Vector with PG, open loop vector 1, open loop vector 2*1, V/f, and V/f with PG (switched by parameter)]
	Starting Torque	150% at 0.3 Hz (open loop vector control 2), 150% at 0 min ⁻¹ (vector control with PG) *2
	Speed Control Range	1:200 (open loop vector control 2), 1:1000 (vector control with PG) *2
	Speed Control Accuracy	±0.2%*3 (open loop vector control 2 at 25°C±10°C), ±0.02% (vector control with PG at 25°C±10°C) *2
	Speed Response	10 Hz (open loop vector control 2), 40 Hz (vector control with PG) *2
	Torque Limit	Can be set by parameter: 4 steps available (only when vector control)
	Torque Accuracy	±5 %
	Frequency Control Range	0.01 Hz to 400 Hz*4
	Frequency Accuracy	Digital reference: ±0.01 %, -10 °C to +40 °C ; Analog reference: ±0.1 %, 25 °C±10 °C
	Frequency Setting Resolution	Digital reference: 0.01 Hz; Analog reference: 0.03 Hz/60 Hz (11-bit + sign)
	Output Frequency Resolution	0.001 Hz
	Overload Capacity*6	150% rated output current for 1 minute, 200% 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 (Accel/Decel time setting independently, 4 steps available)
	Main Control Functions	Braking Torque
		Momentary power loss restart, Speed search, Overtorque detection, Torque limit, 17-step speed operation (maximum), Accel/decel time changeover, S-curve accel/decel, 3-wire sequence, Auto-tuning (dynamic, static), DWELL, Cooling fan ON/OFF, Slip compensation, Torque compensation, Jump frequency, 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 retry, Constant copy, Droop control, Torque control, Speed/torque control changeover, etc.
Protective Functions	Motor Overload Protection	Electronic thermal overload relay
	Instantaneous Overcurrent	Motor coasts to stop at approx. 200 % rated output current.
	Fuse Protection	Motor coasts to stop at blown fuse.
	Overload	150% rated output current for 1 minute, 200% rated output current for 0.5 s
	Overvoltage	Motor coasts to stop if the main circuit voltage exceeds approx. 410 VDC (approx. 820 VDC for 400 V class).
	Undervoltage	Motor coasts to stop if the main circuit voltage drops to approx. 190 VDC (approx. 380 VDC for 400 V class) or below.
	Momentary Power Loss	Immediately stop after 15 ms or longer power loss (at factory setting). Continuous operation during power loss less than 2 s (standard) *7.
	Fin Overheat	Thermistor
	Stall Prevention	Stall prevention during acceleration/deceleration and constant speed operation
	Ground Fault*8	Provided by electronic circuit (overcurrent level)
Power Charge Indication	Indicates until the main circuit voltage reaches 50 V.	
Environmental Conditions	Location	Indoor (Protected from corrosive gasses and dust)
	Humidity	95 %RH (non-condensing)
	Storage Temperature	-20 to 60 °C (for short period during shipping)
	Ambient Temperature	-10 to 40 °C for NEMA1 (type1), -10 to 45 °C for open chassis type
	Altitude	1000 m or below

- * 1 Contact your YASKAWA representatives when using the open-loop vector control 2 for an application with large regenerative power such as hoisting.
- * 2 Specifications for open loop vector control 1 or 2 and vector control with PG require dynamic auto-tuning.
- * 3 The speed control accuracy depends on the installation conditions and type of motor used. Contact your Yaskawa representative for details.
- * 4 The setting range for open-loop vector control 2 is 0.01 to 132 Hz. The maximum output frequency is 250 Hz for 90 kW to 110 kW and 166 Hz for 132 kW to 300 kW inverters in the 400 V class.
- * 5 When using a braking resistor or braking resistor unit, set L3-04 = 0 (deceleration stall prevention). If not, motor may not stop at the set time.
- * 6 Applications with repetitive loads (cranes, elevators, presses, washing machines, etc.) using inverters require derating for the repetitive load [reducing carrier frequency and current (increasing the frame size of the inverter)]. Contact your Yaskawa representative for details.
- * 7 Drives with a capacity of smaller than 7.5 kW in the 200 V or 400 V require a separate Momentary Power Loss Recovery Unit (optional).
- * 8 The ground fault here is one that occurs in the motor wiring during operation. Ground faults may not be detected under the following conditions.
 - A ground fault with low resistance which occurs in motor cables or terminals.
 - The inverter power supply is turned ON after a ground fault has occurred.