CIMR-G7C

Varispeed G7

World first three level inverter architecture

- 3 level control (400 V class)
- · Current vector control and V/F with or without PG
- Torque control (closed loop and open loop)
- Silent operation
- · Rotary and stationary autotuning
- High slip braking function
- · Energy saving function standard
- · LCD operator
- Embedded OMRON PLC functionality with PLC option card
- Standard RS-485 communications Modbus
- Fieldbus options: DeviceNet, PROFIBUS, CANOpen, LONworks, ethernet
- PC configuration tool CX-drive and DriveWorksEZ.
- · CE, UL, and cUL marking
- Customised application software

Ratings

- 200 V Class three-phase 0.4 to 110 kW
- 400 V Class three-phase 0.4 to 300 kW



System configuration





JVOP-160 OY Digital operator (LCD display)



JVOP-161-OY Digital operator (LED display)

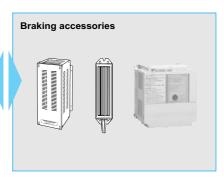


3G3IV-PCN126/326 Digital operator extension cable















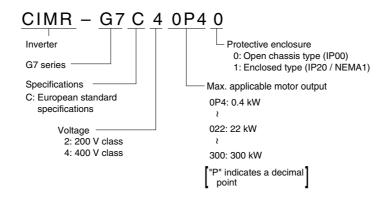




Varispeed G7

Specifications

Type designation



200 V class¹

Model CIMR-G7C□			20P4	20P7	21P5	22P2	23P7	25P5	27P5	2011	2015	2018	2022	2030	2037	2045	2055	2075	2090	2110
Max. applicable kW motor output ²		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	
ics	Inverte	er 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
Output characteristics	Rated	current A	3.2	6	8	12	18	27	34	49	66	80	96	130	160	183	224	300	358	415
Out	Max. voltage			3-phase, 200/208/220/230/240 V (proportional to input voltage)																
cha	Max. o	utput frequency		400 Hz (programmable)																
	Rated freque	input voltage and ncy		3-phase 200/208/220/230/240 V, 50/60 Hz ³																
Power supply	Allowa fluctua	able voltage ation		+10%, -15%																
L Ø	Allowa fluctua	able frequency ation	±5%																	
Harmo wave	nic	DC reactor	Option Provided																	
preven	tion	12-pulse input	Not available Available ⁴																	

- The main circuit of 200 V class inverters uses 2-level control method.
- Standard 4-pole motors are used for max. applicable motor output. Choose the inverter model whose rated current is allowable within the motor rated current range.
- When using the inverter of 200 V class 30 kW or more with a cooling fan of three-phase 230 V 50 Hz or 240 V 50/60 Hz power supply, a transformer for the cooling fan is required.
- A 3-wired transformer is required at 12-pulse input.

400 V class¹

Model	CIMR-G7	7C□	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 kW motor output ²		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	
ics	Inverter capacity		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
Output characteristics	Rated c	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	325	370	450	605
Out	Max. voltage		3-phase, 380/400/415/440/460/480 V (proportional to input voltage)																						
cha	Max. ou frequen			400 Hz (programmable)																					
	Rated in and free	3-phase 380/400/415/440/460/480 V, 50/60 Hz																							
	Allowable voltage fluctuation		+10%, -15%																						
	Allowat fluctuat	±5%																							
Harmo wave	nic	DC reactor	Option Provided																						
prevention		12-pulse input	Not available									Available ³													

- The main circuit of 400 V class inverters uses 3-level control method. Standard 4-pole motors are used for max. applicable motor output. Choose the inverter model whose rated current is allowable within the motor rated current range.
- A 3-wired transformer is required at 12-pulse input.

Frequency inverters

Enclosures

	Model CIMR-G7C□	20P4 20P7 21P5 22P2 23P7 25P5 27P5 2011 2015 2018 2022 2030 2037 2045 2055 2075 2090 2110			
200 V class	Enclosed type (IEC IP20)	Available as standard Available for option Not available			
Q O	Open chassis type (IEC IP00)	Available by removing the upper and lower cover of enclosed type Available as standard			
	Model CIMR-G7C□	40P4 40P7 41P5 42P2 43P7 45P5 47P5 4011 4015 4018 4022 4030 4037 4045 4055 4075 4090 4110 413	32 4160 4185 4220 4300		
400 V class	Enclosed type (IEC IP20)	Available as standard Available for option	Not available		
4 o	Open chassis type (IEC IP00)	Available by removing the upper and lower cover of enclosed type Available as standard			

Commom specifications

	Model number CIMR-G7C□	Specification										
	Control method	Sine wave PWM Closed loop vector control, open loop vector control 1&2, V/f control, V/f with PG control										
	Torque characteristics	150% at 0.3 Hz (open loop vector control 2) 150% at 0rpm (closed vector control)										
	Speed control range	1:200 (open loop vector control 2) 1:1000 (closed loop vector control)										
	Speed control accuracy	\pm 0.2% (open loop vector control) \pm 0.02% (closed loop vector control) (25 °C \pm 10 °C)										
	Speed control response	10 Hz (open loop vector control 2) 30 Hz (control with PG)										
	Torque limits	Provided (4 quadrant steps can be changed by constant settings.) (Vector control)										
	Torque accuracy	± 5%										
tics	Frequency range	0.01 to 400 Hz										
erist	Frequency accuracy	Digital references: ± 0.01% (-10 °C to +40 °C)										
acte	(temperature characteristics)	Analog references: ± 0.1% (25 °C ±10 °C)										
har	Frequency setting	Digital references: 0.01 Hz										
0 0	resolution	Analog references: 0.025/50 Hz (11 bits plus sign)										
Control characteristics	Output frequency resolution	0.001 Hz										
	Overload capacity and maximum current	150% of rated output current for 1 minute 200% of rated output current for 0.5 second										
	Frequency setting signal	0 to +10 V, -10 to +10 V, 4 to 20 mA, pulse train										
	Accel/decel time	0.01 to 6000.0 s (4 selectable combinations of independent acceleration and deceleration time settings)										
	Droking torque	Approximately 20%										
	Braking torque	(Approximately 125% with braking resistor option, braking transistor built into Inverters of 15 kW or less)										
	Main control functions	Restarting after momentary power loss, speed search, overtorque/undertorque detection, torque limits, 17-speed control (maximum), 4 acceleration and deceleration times, S-curve acceleration/deceleration, 3-wire control, auto-tuning (rotational or stationary), dwell function, cooling fan ON/OFF control, slip compensation, torque compensation, auto-restart after fault, jump frequencies, upper and lower limits for frequency references, DC braking for starting and stopping, high-slip braking, advanced PID control, energy-saving control, MEMOBUS communications (RS-485/422, 19.2 kbps maximum), 2 motor parameter sets, fault reset and parameter copy function.										
	Motor protection	Protection by electronic thermal overload relay.										
	Instantaneous overcurrent protection	Stops at approx. 200% of rated output current.										
	Fuse blown protection	Stops for fuse blown.										
SL	Overload protection	150% of rated current for 1 minute 200% of rated current for 0.5 second										
unctio	Overvoltage protection	200 Class Inverter: stops when main-circuit DC voltage is above 410 V. 400 Class Inverter: stops when main-circuit DC voltage is above 820 V.										
Protective functions	Undervoltage protection	200 Class Inverter: stops when main-circuit DC voltage is below 190 V. 400 Class Inverter: stops when main-circuit DC voltage is below 380 V.										
Prote	Momentary power loss ride through	By selecting the momentary power loss method, operation can be continued if power is restored within 2 s.										
	Cooling fin overheating	Protection by thermistor.										
	Stall prevention	Stall prevention during acceleration, deceleration and running independently.										
	Grounding protection	Protection by electronic circuits.										
	Charge indicator	Illuminates when the main circuit DC voltage is approx. 10 VDC or more.										
	Ambient operating temperature	-10 °C to 40 °C (enclosed wall-mounted type) -10 °C to 45 °C (open chassis type)										
Environment	Ambient operating humidity	95% max. (with no condensation)										
onr	Storage temperature	- 20 °C to + 60 °C (short-term temperature during transportation)										
ī	Application site	Indoor (no corrosive gas, dust, etc.)										
Ш	Altitude	1000 m max.										
	Vibration	10 to 20 Hz, 9.8 m/s ² max.; 20 to 50 Hz, 2 m/s ² max										
		10 to 20 Fiz., 3.0 H/3 Hida., 20 to 30 Fiz., 2 H/3 Hida										

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