

World's First 3-Level Inverter

Varispeed G7



200V Class
Power Range: 0.4kW to 110kW

400V Class
Power Range: 0.4kW to 300kW

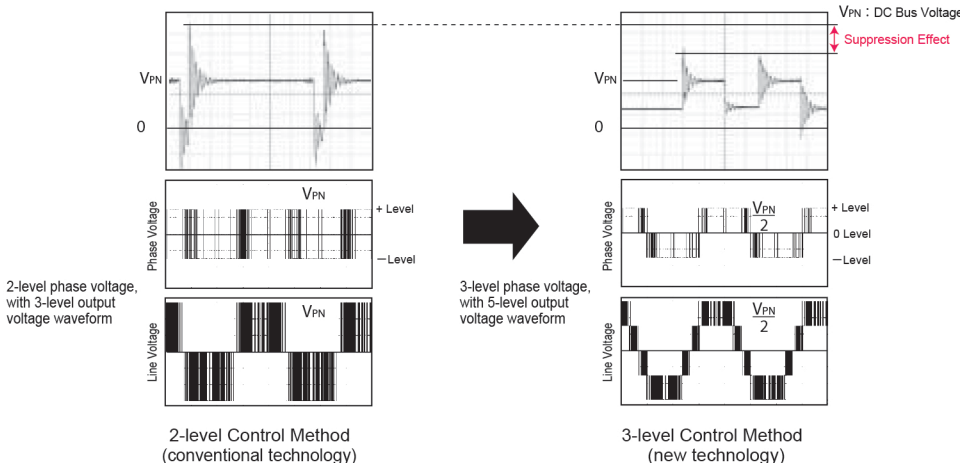
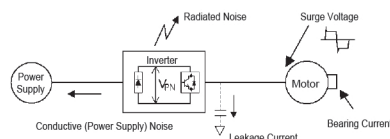
Varispeed G7 drive is the first general-purpose inverter in the world to feature the 3-level control method. This new control technique solves the problem of micro surges and makes it possible to use the Varispeed G7 on existing motors. The High performance and functionality provided by current vector control means powerful and high-precision operation for a diverse range of equipment and machinery. The Varispeed G7 not only lowers your initial cost, but will dramatically slash your running costs through energy-saving control performance.

Features of the 3-level control method

1. Low surge voltage: Suppresses surge voltage to the motor, eliminating the need for surge voltage protection for the motor.

2. Low electrical noise: Significantly reduces conduction (power supply) noise and radiated noise caused by inverter drives, minimizing effects on peripheral devices.

3. Low acoustic noise: Provides low acoustic noise, difficult to achieve with conventional designs.



Features

- Built-in 12 pulse diode bridge (Above 15 kW)
- Low surge voltage
- Low electrical noise
- Low acoustic noise
- No need of output reactor
- Extensive energy- saving control
- Countermeasures to minimize harmonic current
- High-level control performance
- Accurate torque control
- Outstanding torque characteristics
- Simple autotuning
- (12) Digital Inputs, (3) Analog Inputs
- (2) Relay Outputs, (2) Analog Outputs, (4) Photo-coupler Output
- Easy maintenance & operation
- Reduce bearing currents of motor
- Motor Protection by electronic Thermal Overload Relay
- Overload Capacity of 150% of Rated Current.
- Supports Modbus, CANopen, CC-Link, DeviceNet, Mechatrolink-II, Profibus-DP, LONWORKS communication protocols
- Speed Response – 10 Hz (OLV 2), 40 Hz (Vector control with PG)

Standard Specifications

General-Purpose

200 V Class

Model CIMR-G7A □□□□	20P4	20P7	21P5	22P2	23P7	25P5	27P5	2011	2015	2018	2022	2030	2037	2045	2055	2075	2090	2110	
Max. Applicable Motor Capacity 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	Rated Output Capacity kVA	1.2	2.3	3	4.6	6.9	10	13	19	25	30	37	50	61	70	85	110	140	160
	Rated Output Current A	3.2	6	8	12	18	27	34	49	66	80	96	130	160	183	224	300	358	415
Power	Max. Output Voltage	Three-phase, 200/208/220/230/240 V (proportional to input voltage)																	
	Max. Output Frequency	400 Hz by parameter settings																	
	Rated Voltage/Rated Frequency	Three-phase, 200/208/220/230/240 V, 50/60 Hz																	
Power	Allowable Voltage Fluctuation	- 15 to +10%																	
	Allowable Frequency Fluctuation	± 5%																	
Harmonic Suppression	DC Reactor	Optional									Standard								
	12-pulse Input	Not available									Available								
Environmental Conditions	Vibration	9.8 m/s ² at 10 Hz to 20 Hz or below, up to 5.9m/s ² at 20 Hz to 55 Hz												9.8 m/s ² at 10 Hz to 20 Hz or below, up to 2.0 m/s ² at 20 Hz to 55 Hz					
Control Method	Sine wave PWM Flux vector control, open loop vector control, V/F control, V/F with PG control																		
Speed Control Range	1:200 (Open-loop vector 2 control), 1:1000 (Flux vector control)																		
Torque Characteristics	150%/0.3 Hz (Open-loop vector 2 control), 150%/0 min ⁻¹ (Flux vector control)																		
Ambient Operating Temperature	-10°C to 40°C (Enclosed wall-mounted type) 10°C to 45°C (Open chassis type)																		
Braking Torque	Approx.20% (Approx.125 % when using barking resistor) Built-in braking transistor provided for inverters of 15 kW or less (200/400 V)																		

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		
Max. Applicable Motor Capacity 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	Rated Output 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	230	280	340	460	
	Rated Output 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	
Power	Max. Output Voltage	Three-phase, 380/400/415/440/460/480 V (proportional to input voltage)																							
	Max. Output Frequency	400 Hz by parameter settings																							
	Rated Voltage/Rated Frequency	Three-phase, 380/400/415/440/460/480 V, 50/60 Hz																							
Power	Allowable Voltage Fluctuation	- 15 to +10%																							
	Allowable Frequency Fluctuation	± 5%																							
Harmonic Suppression	DC Reactor	Optional									Standard														
	12-pulse Input	Not available									Available														
Environmental Conditions	Vibration	9.8 m/s ² at 10 Hz to 20 Hz or below, up to 5.9m/s ² at 20 Hz to 55 Hz												9.8 m/s ² at 10 Hz to 20 Hz or below, up to 2.0 m/s ² at 20 Hz to 55 Hz											
Control Method	Sine wave PWM Flux vector control, open loop vector control, V/F control, V/F with PG control																								
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Torque Characteristics	150% at 0.3 Hz (Open-loop vector 2 control), 150% at 0 min ⁻¹ (Flux vector control)																								
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