

iG5 преобразователь частоты



Standard features

- kW / Voltage Ratings:
 - 0.5 ~ 2HP, 200-230VAC, 1phase
 - 0.5 ~ 5HP, 200-230VAC, 3phase
 - 0 0.5 ~ 5HP, 380-460VAC, 3phase
- Enclosure: IP00 ~ IP20
- Inverter Type: PWM with IGBT
- Control Method: Volts / Hertz with Space Vector Technology
- Built-in RS-485
- Built-in ModBus-RTU
- Built-in PID control
- Removable keypad (Able to read & write parameter)

- 150% torque at 0.5Hz
- Trip-free operation algorithm
- 8 preset speeds
- 3 jump(skip) frequencies
- 3 Multifunctional inputs
- 1 Multifunctional output
- Analog output (0~12V)
- PNP and NPN dual directional signals
- Speed search
- 3 wire operation
- 1 to 10 kHz carrier frequency
- Built-in Braking transistor
- Manual/Auto torque boost

Options

- Cable for Remote Keypad Operations(2,3 and 5 meters)
- DIN rail base for easy installation

Application

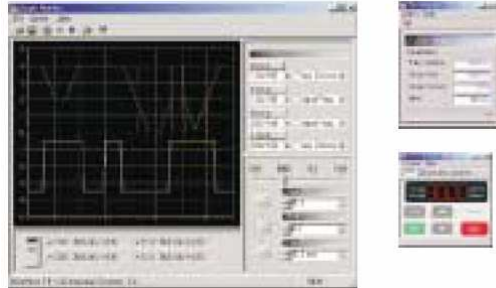
- Converting
- Fan
- Pump
- Food processing machine
- Electric shutter
- Dryer
- Running machine
- Overheat
- Commercial washing machine
- Grinder
- Textile machine
- Material handling machine
- Centrifuge
- Elevator door
- Tooling machine

Reduced size

Enhancing its performance the iG5 shows much smaller size compares to the previous model, the iG series. Maximum 50% of total volume has been reduced in iG5 in order to mount it easily on smaller control panel and DIN rail with less weight. It allows more cost effective panel construction and system design.

Built-in communication interface and PC monitoring software

The iG5 has built-in the most popular communication interfaces such as Modbus-RTU and RS232/485. The iG5 has the small inverter features and standard medium drive features together. The "Driveview TM" software offers Window based computer monitoring tool through RS485 interface with graphic capture, keypad emulator, parameter edit and text monitor. It is applicable for all LG inverters.



RS - 485

ModBus-RTU™

Built-in PID control

It is valuable in process control. The built-in PID controller controls flow, temperature, pressure, etc. through the proportional, integral and differential calculus between the feedback value and reference value in closed loop.

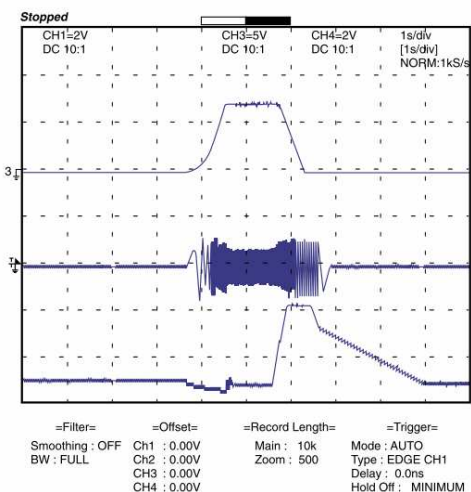
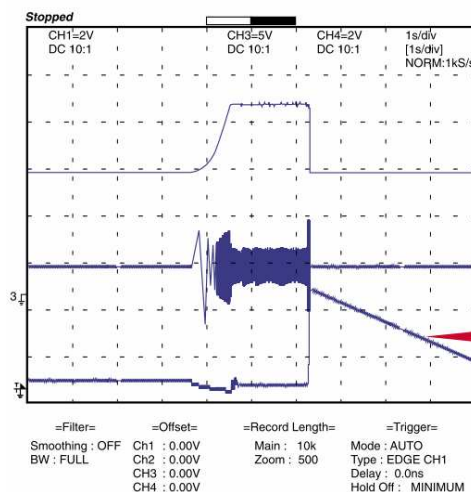
Space vector PWM technology

The Space vector technology is being adopted in all LG drives. It features outstanding performance in its control characteristics. It has low total harmonic distortion, low current ripple, low torque ripple, low motor temperature rise, and better voltage utilization. It is a basic control platform of the iG5 drive. The advantages of

Space vector PWM technology are being proved in many applications.

Optimum acceleration and deceleration

To achieve a maximum torque during the acceleration and deceleration, "trip free" function is activated. The 32-bit DSP CPU monitors the current transition during the acceleration and deceleration to program an optimum curve that is under the trip-triggering level.



PNP and NPN switchable duals signals

The iG5 has both PNP and NPN signals in order to controlled by PLC or outside controller. Regardless the type of PLC or type of control signal, iG5 can work with positive 24Vdc and negative 24Vdc.

Drive Type (SV_ _ _ iG5- _)		004-1	008-1	015-1	004-2	008-2	015-2	022-2	037-2	040-2
Motor Rating* ¹⁾	[HP]	0.5	1	2	0.5	1	2	3	5	5.4
	[kW]	0.37	0.75	1.5	0.37	0.75	1.5	2.2	3.7	4
Output ratings	Capacity[kVA]* ²⁾	1.1	1.9	3	1.1	1.9	3	4.5	6.1	6.5
	FLA[A]	3	5	8	3	5	8	12	16	17
	Frequency	0 ~ 400 Hz								
Input ratings	Voltage	200 ~ 230V* ³⁾								
	Voltage	1 phase 200 ~ 230 V(±10%)				3 phase 200 ~ 230 V(±10%)				
	Frequency	50 ~ 60 Hz (±5%)				50 ~ 60 Hz (±5%)				
Weight[kg]		1.2	1.8	2.1	1.2	1.2	1.8	2.1	2.2	2.2
Braking torque	Braking circuit	On board								
	Average braking torque	20% (with optional external braking resistor : 100%, 150%)								
	Max. continuous braking time	15 seconds								
	Max. duty	0 ~ 30 % ED								
Cooling method		Forced air cooling				Natural		Forced air cooling		
Enclosure		IP00								

Specifications 380 ~460V Class(0.5~ 5.4 HP)

Drive Type (SV __ __ iG5 __)	004-4	008-4	015-4	022-4	037-4	040-4
Motor Rating* ¹⁾	[HP]	0.5	1	2	3	5.4
	[kW]	0.37	0.75	1.5	2.2	4
Output ratings	Capacity[kVA]* ²⁾	1.1	1.9	3	4.5	6.5
	FLA[A]	1.1	2.5	4	6	9
Input ratings	Frequency	0 ~ 400 Hz ³⁾				
	Voltage	380 ~ 460V*				
Weight[kg]	Weight [kg]	1.7	1.7	1.8	2.1	2.2
	Braking circuit	On board				
Braking torque	Average braking torque	20% (with optional external braking resistor : 100%, 150%)				
	Max. continuous braking time	15 seconds				
Cooling method	Max. duty	0 ~ 30 % ED				
	Enclosure	Forced air cooling				
Enclosure		IP00				

*1) Indicates the maximum applicable capacity when using 4 pole LG standard motor.

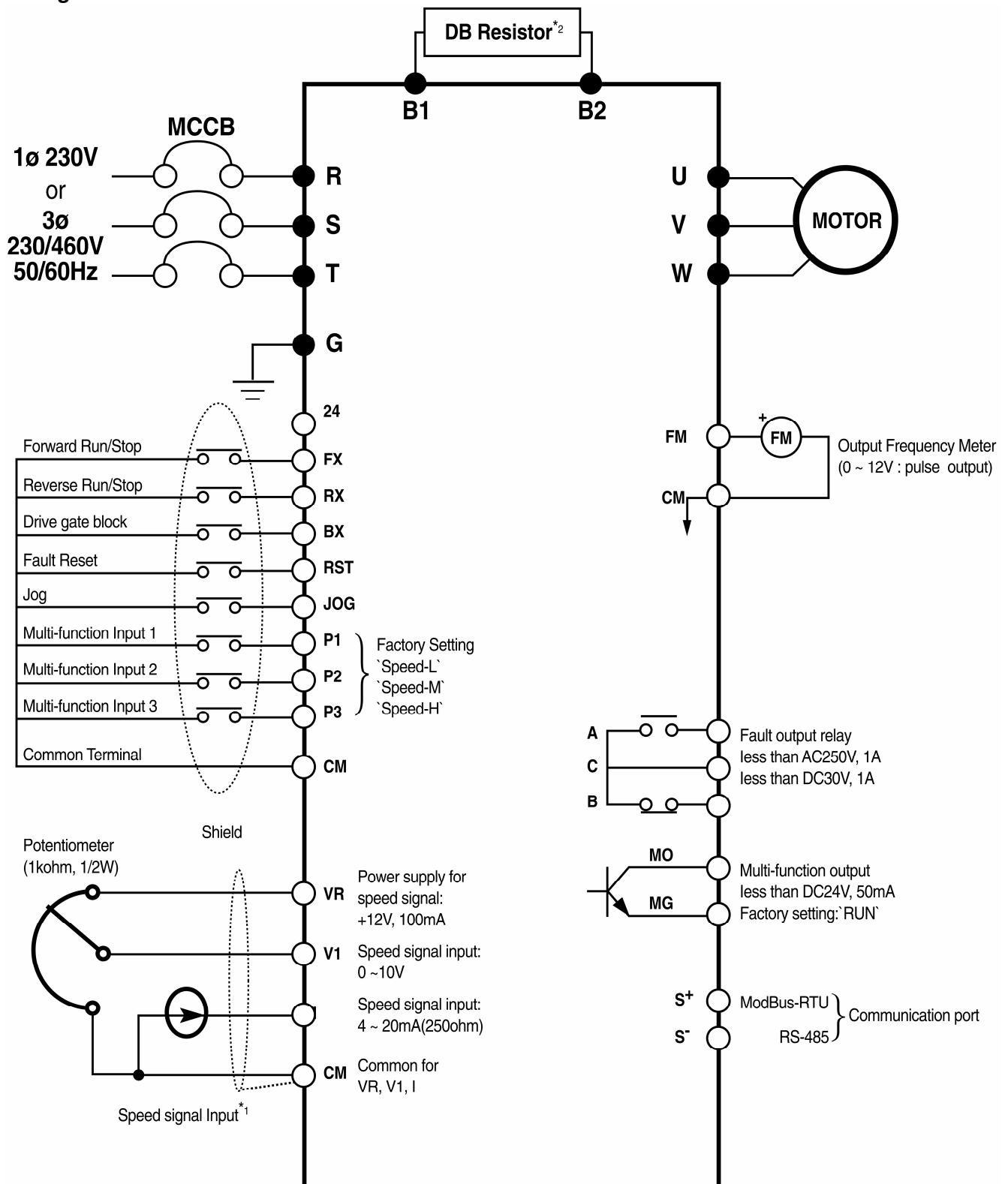
*2) Rated capacity (√3*V*) is based on 220V for 200V class and 440V for 400V class.

*3) Maximum output voltage will not be greater than the input voltage. Output voltage less than the input voltage can be set.

Control	Control method	V/F control				
	Frequency setting resolution	Digital reference : 0.01 Hz (below 100 Hz), 0.1 Hz (over 100 Hz) Analog reference : 0.03 Hz / 50 Hz				
	Frequency accuracy	Digital : 0.01% of max. output frequency Analog : 0.1% of max. output frequency				
	V/F ratio	Linear, Square pattern, User V/F				
	Overload capacity	150 % of rated current for 1 min., 200% of rated current for 0.5 sec. (characteristic is inversely proportional to time)				
	Torque boost	Manual torque boost (0 ~ 15 %), Auto torque boost				
Operation	Operation method	Keypad / terminal / communication operation				
	Frequency setting	Analog : 0 ~ 10V / 4 ~ 20 mA Digital : keypad				
	Start signal	Forward, Reverse				
	Multi-step	Up to 8 speeds can be set (use multi-function terminal)				
	Multi-step accel/decel time	0 ~ 6,000 sec, up to 8 types can be set and selected for each setting (use the multi- function terminal),				
		Accel/Decel pattern : linear pattern, U pattern, S pattern, Optimum, Minimum				
	Emergency stop	Interrupts the output of the drive				
	Jog	Jog operation				
	Fault reset	Resets fault when protective function is active				
	Operation status	Frequency level detection, Overload alarm, stalling, overvoltage, undervoltage, drive overheating, running, stop, constant speed, speed searching				
Output signal	Fault output	Contact output (30A,30C,30B) - AC250V 1A, DC30V 1A				
	Indicator	Choose 1 from output frequency, output current, output voltage, DC voltage (Output pulse: 500Hz, Output voltage: 0 ~ 10V)				
	Operation function	DC braking, frequency limit, frequency jump, second function, slip compensation, reverse rotation prevention, auto restart, PID control				
Protective function	Drive trip	Overvoltage, undervoltage, overcurrent, drive overheating, motor over heating, input/output phase loss, input/output mis-wiring, overload protection, communication error, loss of speed command, hardware fault.				
	Inverter alarm	Stall prevention, overload alarm				
	Momentary power loss	Less than 15 msec : continuous operation, more than 15 msec : auto restart possible				
Display Keypad	Operation information	Output frequency, output current, output voltage, frequency value setting, operating speed, DC voltage				
	Trip information	Indicates the fault when the protection function activates, memorizes up to 5 faults				
Environment	Ambient temperature	-10 °C ~ 40 °C				
	Storage temperature	-20 °C ~ 65 °C				
	Ambient humidity	90 % RH max.(Non condensing)				
	Altitude . Vibration	Below 1,000 m · below 5.9m/sec ² (=0.6g)				
	Application site	No corrosive gas, combustible gas, oil mist, or dust				



Wiring



Note) "●" display main circuit terminals, "○" display control circuit terminals.

1. Analog speed command can be set by Voltage, Current and both of them.

2. DB resistor is optional.