



RHYMEBUS INVERTER AC MOTOR CONTROLLER



RM5 series

The **RHYMEBUS RM5** Series is applied with the newly IGBT transistorized module, incorporating recent advancements in technology, variable frequency from 2.5kHz~15kHz. The unique full digital control succeeds Multi-functions, Easy operation, Energy-saving and Time-saving. This utilizes of inverter is your best choice!

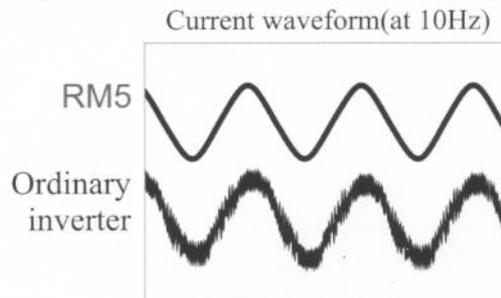
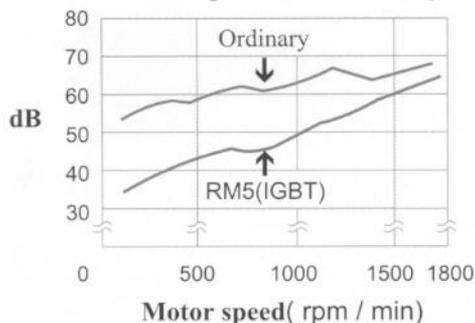
Features

(Software NO. P5102A)

- **Low noise**
- **High torque**
- **Automatic voltage regulation**
- **User friendly**
- **Restart after instantaneous power interruption and resume after restart are provided.**
- **9 levels for speed setting**
- **6 digits display**
- **Noncontact charge circuit for 7.5~30 HP**
- **Programmable inputs and outputs**
- **Store and copy settings by using KP-201 digital keypad**
- **Connect to the external indicators for displaying the status of inverter**
- **Energy saving**
- **Parameter management systems**

• Low noise

Using IGBT by which the maximum switching frequency of sinusoidal PWM is 10kHz to 15kHz, the motor is operated smoothly and efficiently with low noise.



• High torque

At low speed, the torque compensation by which the compensated torque can be above 150% of rated torque is provided for smooth start in the case of heavy load.

• Automatic voltage regulation (AVR)

In spite of the fluctuation of power source, output voltage of inverter can be kept at the desired level.

• User friendly

There are two types of operating keypad, one for advanced applications and the other for usual use. User can choose one of them to function inverter easily and properly.

Besides, the connector between inverter and keypad is the same as that of telephone.

The remote control is then easily realized with maximum distance of 25 m.

• Restart after instantaneous power interruption

If the power source is shutdown during running, the functions of recording the speed of motor before power interruption and resuming that after restart are provided.

• Levels for speed setting

There are 5 independent acceleration/deceleration time settings from 0~3200 sec. in 9 levels speed. Therefore, the maximum and minimum acceleration times are 0.015 sec. and 19200000 sec.(about 22 days), respectively(excluding free running).

• 6 Digits display

There are 8 status of inverter can be displayed (frequency, speed, voltage, current, etc).

• Noncontact charge circuit for 7.5~30 HP

Prevent inverter from dust and the effect of life of machinery.

• **Programmable inputs and outputs**

There are 13 functions programmed by using input terminals X1~X6 and 12 functions programmed via output terminals, Y1 and Y2 (open collector), and Ta and Tb (relay output)

• **Store and copy settings**

The settings can be stored in KP-201 and used for the other inverter by means of plugging KP-201 in inverter. If the KP-201 containing stored settings is plugged in the other inverter, the copy of the stored settings to the other inverter can be performed, and the inverters have the same settings. This function is useful in the case of several inverters with the same data settings.

• **Connect to the external indicator for displaying the status of inverter.**

There are 3 external indicators(96cm x 48cm, 5 digits)can be used simultaneously to indicate the inverter status such as frequency, speed, voltage, current, and line velocity etc. Therefore, it is not needed to use the other instruments or sensors such as CT etc., and the cost and wiring will be reduced

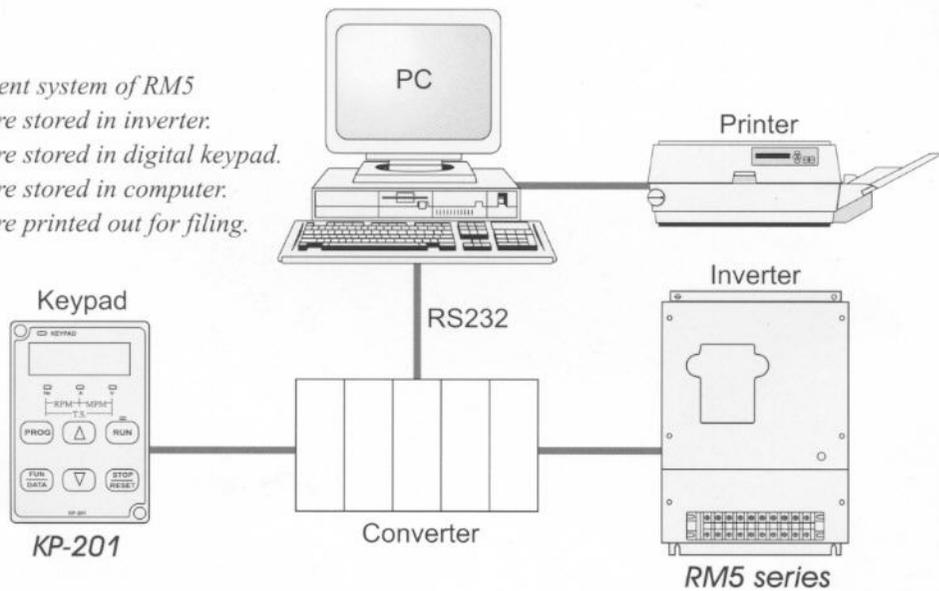
• **Energy saving**

Under the light load condition, the less energy is outputted for the purpose of saving energy.

Parameter management system

The management system is software, which can display the descriptions and settings of parameters in Chinese or English. The schematics diagram of management system is shown in the figure below.

- Parameter management system of RM5*
- Parameter settings are stored in inverter.*
- Parameter settings are stored in digital keypad.*
- Parameter settings are stored in computer.*
- Parameter settings are printed out for filing.*



Model Number Scheme

RM5 - 2007 B

A B C D

- A** : RM5 RHYMEBUS series number
- B** : Voltage level
 - 2 Indicate 200V/220V/230V
 - 4 Indicate 380V/415V/440V/460V
- C** : 007 Capacity(7.5Hp)
- D** : B Brake type with braking transistor.(0.4kw/1HP~3.7kw/5HP provide braking transistor as standard type, up to 5.5kw/7.5HP offer by option)

Specifications

RM5-200V Series

Series No.(RM5)	200 $\frac{1}{2}$	2001	2002	2003	2005	2007	2010	2015	2020	2025	2030	2040	2050	2060	2075	2100	2125	2150
Rated power of the motor(HP/KW)	0.5/0.4	1/0.75	2/1.5	3/2.2	5/3.7	7.5/5.5	10/7.5	15/11	20/15	25/18.5	30/22	40/30	50/37	60/45	75/55	100/75	125/90	150/110
Rated continuous output power(KVA)	1.3	2	3	4	6	9	13	18	22	28	33	44	55	67	84	115	132	160
Rated continuous output current(A)	3	5	8	11	17	25	33	46	60	74	90	115	145	175	220	295	346	405
Rated output voltage (V)	3 ϕ 200 ~ 230V																	
Range of output frequency(Hz)	50 ~ 400Hz																	
Power source(ϕ , V, Hz)	1 ϕ / 3 ϕ , 200~230V, 50/60Hz						3 ϕ , 200~230V, 50/60Hz(Up 7.5HP/5.5kw)											
Tolerance of power source voltage	180V~253V, 50/60Hz																	
Tolerance of frequency fluctuation	\pm 5%																	

RM5-400V Series

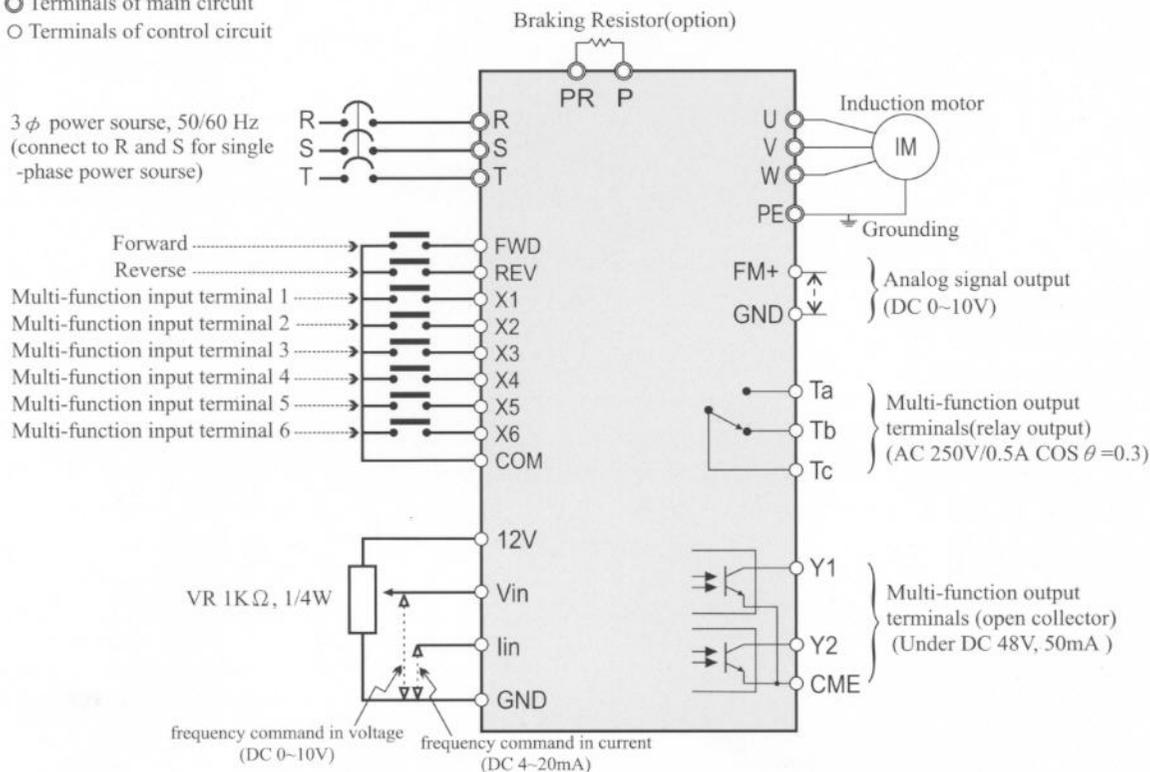
Series No.(RM5)	4001	4002	4003	4005	4007	4010	4015	4020	4025	4030	4040	4050	4060	4075	4100	4125	4150
Rated power of the motor(HP/KW)	1/0.75	2/1.5	3/2.2	5/3.7	7.5/5.5	10/7.5	15/11	20/15	25/18.5	30/22	40/30	50/37	60/45	75/55	100/75	125/90	150/110
Rated continuous output power(KVA)	1.9	3.3	4	7	10	14	18	23	30	34	46	56	66	84	104	134	165
Rated continuous output current(A)	2.5	4	6	9	14	18	24	30	39	45	61	73	87	110	137	176	204
Rated output voltage (V)	3 ϕ 380 ~ 460V																
Range of output frequency(Hz)	50 ~ 400 Hz																
Power source(ϕ , V, Hz)	3 ϕ , 380 ~ 460V, 50/60Hz																
Tolerance of power source voltage	323V~506V, 50/60Hz																
Tolerance of frequency fluctuation	\pm 5%																

User interface	Digital and analog operating keypads with remote control.		
Control characteristics	Control characteristics	Sinusoidal PWM control.	
	Range of frequency setting	0.1 ~ 400.00Hz	
	Resolution of frequency setting	Digital keypad:0.01Hz, Analog keypad: 0.06/60Hz	
	Resolution of output frequency	0.01Hz	
	Analog voltage of frequency setting	DC 0 ~ 10V(20K Ω), 4 ~ 20mA(250 Ω)	
	Overload current	150% rated current for 1 minute.	
	5 acceleration/deceleration times	Zero sec. for free running, 0.1 ~ 3200.0 sec. for independent acceleration/deceleration setting. The time range from 0 to 60Hz are 0.015 sec. ~ 1920000 sec.(about 222 days)	
	Braking torque	About 20% (For the inverter rated power less than 10 hp, the braking transistor is included, and braking torque can be about 100%)	
	Voltage/Frequency pattern	The pattern can be set arbitrarily.	
	Stall prevention	The current of stall prevention can be set arbitrarily	
Operational characteristics	Input	Control of direction of rotation	Forward / Reverse rotation is controlled by using 3-line sustaining circuit, which offer 9 levels speed choice.
		Multiple function inputs	Stop command by using the 3-line sustaining circuit, jogging operation, secondary acceleration/deceleration time, multiple-level speed command 1, multiple-level speed command 2, multiple-level speed command 3, reset, command for exceptional conditions, command of inhibiting output, command of stop by free running, command of frequency search from the max. frequency, command of frequency search from the set frequency, acceleration/deceleration inhibition command, programmable contacts a and b.
	Output	Analog inputs	Vin-GND (0~10V), lin-GND (4~20mA)
		Multiple function outputs	Running, constant speed, zero speed, frequency detection, overload detection., stall prevention, undervoltage, braking, restart after instantaneous power interruption, restart after trouble shooting, exceptional conditions, programmable contacts a and b.
Displays	Multiple function outputs	Analog voltage, DC 0~10 V with adjustable gain, for representing output frequency, frequency setting, or output current	
	Analog outputs		
Displays	Displays of keypads	Output frequency, frequency settings, output voltage, DC voltage, output current, motor speed, line velocity of motor, status of terminals.	
	Displays of external indicators	There are 3 external indicators (96cm x 48cm, 5 digits) can be used simultaneously to indicate the frequency, speed, voltage, current, and line velocity etc.	
Protections	Functions	Overcurrent (OC), over voltage (OE), under voltage (LE), motor overload (OL), inverter overload (OL1), over heat (OH), ground fault current(GF), fuse open (SC), disconnection of KP-202 during running (PadF).	
	Diagnostics	Disconnection of digital keypad (Err_00, Err_01), EEPROM error (EEr)	
	Cooling	Force cooling (natural cooling for rated power of 1/2 and 1 Hp)	
Ambient conditions	Environment	Non-corrosive non-conductive, or non-explosive gas or liquid, and non-dusty.	
	Temperature	-10 $^{\circ}$ C(14 $^{\circ}$ F) ~+50 $^{\circ}$ C(122 $^{\circ}$ F),non-freezing and non-condensing	
	Storage temperature	-20 $^{\circ}$ C(-4 $^{\circ}$ F) ~+60 $^{\circ}$ C(149 $^{\circ}$ F)	
	Relative humidity	90% RH or less (non-condensing atmosphere)	
	Vibration	Less than 5.9m/sec ² (0.6G)	
Altitude	Less than 1000m (3280 ft)		

Standard wiring

1/2 ~ 5HP

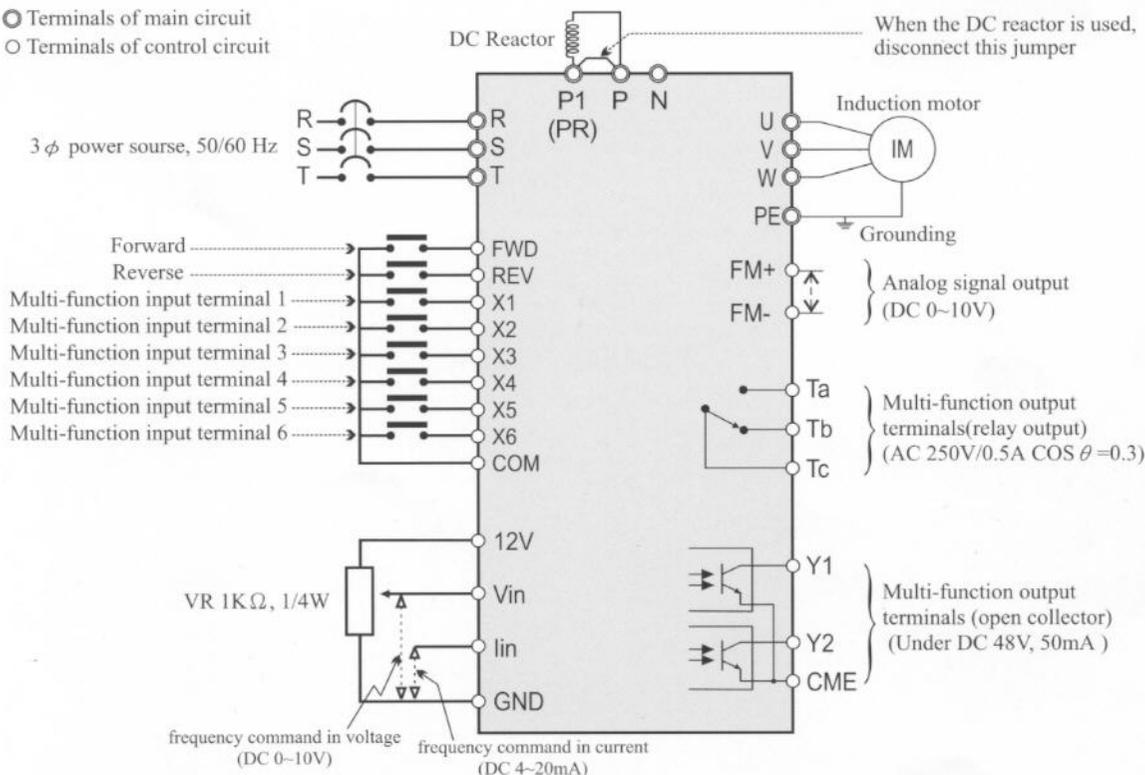
- Terminals of main circuit
- Terminals of control circuit



※ Built-in brake resistor.

7.5 ~ 150HP

- Terminals of main circuit
- Terminals of control circuit



※ If 7.5~30HP as built-in brake resistor, the mark of P1 will change to PR.

※ For 400V up to 40HP/KW, there are small terminals

0	380	415	440	460
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 on the right side of RST, UVW, which is connected to the wire of cooling fan and contactor. Be sure connect to the correct required voltage.
(ex. when power is 380V, then must connect 0 and 380V. In case of the power change to 460V, please connect to 460V)

Terminals

Terminals		Symbols	Name	Descriptions
Main Circuit	Power source	R.S.T.	Input AC voltages	3-phase power source(for 1 ϕ , 220V, use R and S only)
	Motor	U.V.W.	Inverter output voltages	3-phase variable voltage and frequency output to motor
	Power and braking	P.N.	Dynamic brake terminals	Connect to the dynamic brake unit
		PR	External braking resistor	P and PR terminals connect to an external braking resistor (option)
		P1	External reactor	P and P1 terminals are short-circuit or connect to an external reactor for improving power factor. The factory setting is short-circuit.
Grounding	PE	Grounding	Less than 100 Ω for the third grounding method	
Control Circuit	Input terminals	FWD	Forward operation	FWD-COM is short-circuit for forward operation
		REV	Reverse operation	REV-COM is short-circuit for reverse operation
		X1	Multiple function input terminal 1	Function is determined by F_052
		X2	Multiple function input terminal 2	Function is determined by F_053
		X3	Multiple function input terminal 3	Function is determined by F_054
		X4	Multiple function input terminal 4	Function is determined by F_055
		X5	Multiple function input terminal 5	Function is determined by F_056
		X6	Multiple function input terminal 6	Function is determined by F_057
		COM	Common of input terminals	Common of input terminal signals
		Vin	Voltage type of frequency command input	Analog voltage DC 0~10V
	lin	Current type of frequency command input	DC current 4~20mA	
	Power source	+12V	Reference voltage of control signals	DC +12V reference voltage with maximum current 20mA
		GND	Ground of control signals	Ground of control signals
	Output terminals	FM+ FM-	Analog output terminals	DC 0~10 V outputs to voltage-type meter such as frequency meter or current meter. For 0.5~5 HP, FM+ and GND are used to output voltage
		Ta	Multiple function output terminals (relay outputs)	The function of contact A(normally open)is determined by F_60. (The capacity of contact is 250VAC, 0.5A and $\cos \phi =0.3$)
		Tb		The function of contact B(normally close)is determined by F_60. (The capacity of contact is 250VAC, 0.5A and $\cos \phi =0.3$)
		Tc		Common terminals of Ta and Tb.
Y1		Multiple function output terminal 1	Function is determined by Function is determined by F_058 & F_059.(The max. capacity is DC 48V, 50mA)	
Y2		Multiple function output terminal 2		
CME	Multiple function output common terminal			

Function Set

Function	Name	Descriptions	Range of setting	Resolution	
F 000	Version of software	Display the version of software.	—	—	
F 001	Selections of start command	Start command		0 ~ 3	—
		Direction command			
		0:	FWD, REV and COM are used to determine start signal and direction of rotation		
		1:	FWD terminal control		
2:	Start signal is generated by keypad		FWD and REV terminals		
3:			FWD and REV terminals are useless		
F 002	Select source of speed setting	0: Indicate that the speed is set by terminals. 1: Indicate that the speed is set by keypad.	0,1	—	
F 003	Selection of validity of STOP on keypad	0: Indicate terminals generate start signal and STOP on keypad is invalid. 1: Indicate terminals generate start signal and STOP on keypad is valid.	0,1	—	
F 004	Select function of changing frequency for KP-201	0: indicate that KP-201 is in monitor mode and that the frequency setting can not be changed. 1: indicate that KP-201 is in monitor mode and that the frequency setting can be changed.	0,1	—	
F 005	Select function of storing frequency for KP-201	0: indicate that KP-201 is in monitor mode and that the frequency setting can not be stored automatically. 1: indicate that KP-201 is in monitor mode and that the frequency setting can be stored automatically after 3 minutes.	0,1	—	
F 006	Select main display of KP-201	Select one of 8 displays as main display.	1 ~ 8	—	
F 007	Speed constant	Set the value of MPM displayed on keypad.	0 ~ 500.00	0.01	
F 008	No. decimal of speed display	Set the no. decimal of speed displayed on keypad.	0 ~ 3	—	
F 009	Main speed	Jog X3 X2 X1 OFF OFF OFF OFF	0.00 ~ 400.00	0.01Hz	
F 010	Speed level 1	OFF OFF OFF ON	0.00 ~ 400.00	0.01Hz	
F 011	Speed level 2	OFF OFF ON OFF	0.00 ~ 400.00	0.01Hz	
F 012	Speed level 3	OFF OFF ON ON	0.00 ~ 400.00	0.01Hz	
F 013	Speed level 4	OFF ON OFF OFF	0.00 ~ 400.00	0.01Hz	
F 014	Speed level 5	OFF ON OFF ON	0.00 ~ 400.00	0.01Hz	
F 015	Speed level 6	OFF ON ON OFF	0.00 ~ 400.00	0.01Hz	
F 016	Speed level 7	OFF ON ON ON	0.00 ~ 400.00	0.01Hz	
F 017	Jog speed	ON X X X	0.00 ~ 400.00	0.01Hz	
F 018	Base freq. of acc/dec	The frequency associated with acc/dec time.	0.01 ~ 400.00 Hz	0.01Hz	
F 019	Primary acceleration time	The acceleration time of main speed, speed level 4~7, and jog speed.	0.0 ~ 3200.0 sec	0.1s	
F 020	Primary deceleration time	The deceleration time of main speed, speed level 4~7, and jog speed.	0.0 ~ 3200.0 sec	0.1s	
F 021	Acceleration time of speed level 1	Acceleration time of speed level 1	0.0 ~ 3200.0 sec	0.1s	
F 022	Deceleration time of speed level 1	Deceleration time of speed level 1	0.0 ~ 3200.0 sec	0.1s	
F 023	Acceleration time of speed level 2	Acceleration time of speed level 2	0.0 ~ 3200.0 sec	0.1s	
F 024	Deceleration time of speed level 2	Deceleration time of speed level 2	0.0 ~ 3200.0 sec	0.1s	
F 025	Acceleration time of speed level 3	Acceleration time of speed level 3	0.0 ~ 3200.0 sec	0.1s	
F 026	Deceleration time of speed level 3	Deceleration time of speed level 3	0.0 ~ 3200.0 sec	0.1s	
F 027	Secondary acceleration time	Multiple function-input terminals control the situation of the determination of secondary acceleration time.	0.0 ~ 3200.0 sec	0.1s	
F 028	Secondary deceleration time	Multiple function-input terminals control the situation of the determination of secondary deceleration time.	0.0 ~ 3200.0 sec	0.1s	
F 029	Setting of S-curve acc/dec time	Setting of acceleration/deceleration time of S-curve acceleration/deceleration.	0.0 ~ 5.0	0.1s	
F 030	Limitation of output voltage	0: output voltage is not limited. 1: output voltage is limited.	0,1	—	
F 031	Max. output frequency	Operational maximum output frequency.	0.1 ~ 400.0 Hz	0.1Hz	
F 032	Start frequency	Start frequency of inverter output frequency.	0.1 ~ 10.0 Hz	0.1Hz	
F 033	Boost voltage	Output voltage associated with output start frequency.	0.1 ~ 50.0 V 0.1 ~ 100 V	0.1V	
F 034	Base frequency	The frequency associated with rated voltage in V/F pattern.	0.1 ~ 400.0 Hz	0.1Hz	
F 035	Base voltage	The rated voltage of all V/F pattern.	0.1 ~ 255.0 V 0.1 ~ 510.0 V	0.1V	
F 036	Frequency at the changing point 1	Frequency at the changing point 1 of V/F pattern.	0.0 ~ 400.0 Hz	0.1Hz	
F 037	Voltage at the changing point 1	Voltage at the changing point 1 of V/F pattern.	0.0~255.0 V 0.0~510.0 V	0.1V	

X : means don't care

 The color as means which can be set during operation.

RM5

Function	Name	Descriptions	Range of setting	Resolution
F 038	Frequency at the changing point 2	Frequency at the changing point 2 of V/F pattern.	0.0~400.0Hz	0.1Hz
F 039	Voltage at the changing point 2	Voltage at the changing point 2 of V/F pattern.	0.0~255.0V 0.0~510.0V	0.1V
F 040	Frequency command gain	Proportional gain between analog frequency command and output frequency.	0.00 ~ 2.00	0.01
F 041	Gain of bias frequency	Gain of analog bias frequency.	-1.00 ~ 1.00	0.01
F 042	Ratio of upper bound of output frequency	The upper bound of output voltage is defined as the percentage of the maximum output frequency. (1.00 denotes the maximum frequency)	0.00 ~ 1.00	0.01
F 043	Ratio of lower bound of output frequency	The lower bound of output voltage is defined as the percentage of the maximum output frequency. (1.00 denotes the minimum frequency)	0.00 ~ 1.00	0.01
F 044	Selection of analog output signal	0: analog signal indicates output frequency 2: analog signal indicates output current 1: analog signal indicates frequency setting	0 ~ 2	—
F 045	Analog output gain	Gain = max. output frequency/output frequency, or Gain = rated current of inverter/output current.	0.01 ~ 2.00	0.01
F 046	Overload protection selection	0: no overload protection for motor. 1: overload protection for motor.	0,1	—
F 047	Relay selection	0: standard rated time. 1: short rated time.	0,1	—
F 048	Rated current of motor	According to the spec. of motor.	10%~120% by the inverter rated current	0.1A
F 049	No-load current of motor	According to the spec. of motor.	0 ~ motor rated current	0.1A
F 050	Slip compensa-tion	According to the load condition, slip is compensated for constant speed.	-9.9 ~ 5.0Hz	0.1Hz
F 051	No. poles of motor	Setting of poles of motor for conversion of RPM.	2 ~ 10	2P
F 052	Input terminal X1 setting	0: STOP command with 3-line sustaining circuit.(X5—contact a, X6—contact b) ±1: jog command. ±2: switching between the secondary acceleration and deceleration. ±3: multiple speed level 1 command 1. ±4: multiple speed level 2 command 2. ±5: multiple speed level 3 command 3. ±6: reset command. ±7: external exception command. ±8: inhibition command for output. ±9: stop in free running. ±10: speed search from the maximum frequency. ±11: speed search from the set frequency. ±12: inhibition command for acceleration and deceleration.	-12 ~ +12	—
F 053	Input terminal X2 setting			
F 054	Input terminal X3 setting			
F 055	Input terminal X4 setting			
F 056	Input terminal X5 setting			
F 057	Input terminal X6 setting			
F 058	Output terminal Y1 setting	0:useless. ±1:running detection. ±2:constant speed detection. ±3:zero speed detection. ±4:frequency detection. ±5:overload detection. ±6:stall prevention detection. ±7:undervoltage detection. ±8:detection of braking. ±9:detection of restart after instantaneous power interruption. ±10:detection of restart after exceptional conditions. ±11:detection of exceptional conditions.	-11 ~ +11	—
F 059	Output terminal Y2 setting			
F 060	Settings of output terminals Ta and Tb			
F 061	Frequency range for constant speed detection	Frequency range for constant speed detection.	0.0 ~ 10.0Hz	0.1Hz
F 062	Frequency detection range	Frequency detection range.	0.0 ~ 10.0Hz	0.1Hz
F 063	Level of freq. detection	Level of frequency detection for multiple function output terminal.	0.0 ~ 400.0Hz	0.1Hz
F 064	Gain of the automatic torque boost	According to the load condition, adjust the output voltage of the certain V/F pattern.	0.0 ~ 3.0	0.1
F 065	Selection of overload detection (OLO)	0: There is no output for overload detection. 1: There is output for overload detection.	0,1	—
F 066	Status of overload detection (OLO)	0: There is output for the condition of constant frequency only. 1: There is output for any frequency.	0,1	—
F 067	Output setting for overload (OLO)	0: Inverter is still running after that overload has been detected. 1: Output of inverter is inhibited after that overload has been detected.	0,1	—
F 068	Level of overload setting (OLO)	The setting of level of current for overload detection.	30%~200% by the inverter rated current	1%
F 069	Time interval for overload detection	The time interval, in which the output current is greater than the setting of F_068, required for overload detection.	0.1~10.0 sec	0.1s
F 070	Level of stall prevention at the constant speed.	If stall is occurred at the constant-speed running, the speed is decreased.	30%~200% by the inverter rated current	1%
F 071	Level of stall prevention during acc.	If stall is occurred during acceleration, motor is kept at constant speed.	30%~200% by the inverter rated current	1%
F 072	Acceleration time of recovery after stall prevention at the constant speed	Setting of acceleration time of recovery after stall prevention at the constant speed.	0.1 ~ 3200.0 sec	0.1s
F 073	Deceleration time of recovery after stall prevention at the constant speed	Setting of deceleration time of recovery after stall prevention at the constant speed.	0.1 ~ 3200.0 sec	0.1s
F 074	Select function of stall prevention during dec.	0: there is no stall prevention during deceleration. 1: there is stall prevention during deceleration.	0,1	—
F 075	Current of DC braking	Setting of level of current for DC braking setting.	0%~150% by the inverter rated current	1%
F 076	Time interval of DC braking in stop	In stop the required time interval for DC braking setting.	0.0~20.0 sec	0.1s
F 077	Time interval of DC braking in start	In start the required time interval for DC braking setting.	0.0~20.0 sec	0.1s
F 078	Selection of resumption	0: inverter can not be restarted after instantaneous power interruption. 1: inverter will be restarted after instantaneous power interruption. 2: shutdown. 3: inverter will be restarted after shutdown.	0 ~ 3	—

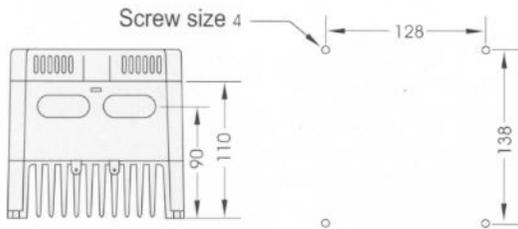
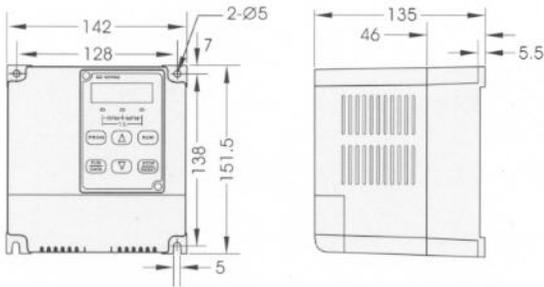
The color as means which can be set during operation.

Function	Name	Descriptions	Range of setting	Resolution
F 079	Level of power source for shutdown	Level of power source for shutdown.	130.0~192.0 V 230.0~384.0 V	0.1V
F 080	Number of restart	Number of restart for exceptional conditions.	0 ~ 16	1 time
F 081	Carry frequency setting	Note that the higher the setting is, the lower the noise is. The carry frequency is inversely proportional to the distance between inverter and motor.	1 ~ 6	—
F 082	Types of stop	0: Indicate stop via deceleration. 1: Indicate stop via free running.	0,1	—
F 083	Inhibition of reversal rotation	0: Indicate that reversal rotation is allowed. 1: Indicate that reversal rotation is not allowed.	0,1	—
F 084	Jumping frequency 1	For avoiding the resonance of machinery, the jump of frequency command is occurred in frequency 1.	0.0~400.0 Hz	0.1Hz
F 085	Jumping frequency 2	For avoiding the resonance of machinery, the jump of frequency command is occurred in frequency 2.	0.0~400.0 Hz	0.1Hz
F 086	Jumping frequency 3	For avoiding the resonance of machinery, the jump of frequency command is occurred in frequency 3.	0.0~400.0 Hz	0.1Hz
F 087	Jump of frequency	The jump of frequency command in frequency 1, 2 and 3.	0.0~25.5 Hz	0.1Hz
F 088	Current for speed tracking	If the current is greater than that for speed tracking, the output frequency is decreased.	0%~200% of the inverter rated current	1%
F 089	Time interval for speed tracking	The time interval, with zero output frequency, preceding with speed tracking.	0.5 ~ 5.0 sec	0.1s
F 090	V/F pattern of speed tracking	In the speed tracking, the setting of percentage of output voltage obtained from the original V/F pattern.	0 ~ 100%	1%
F 091	Fault records	Display the last 5 records of faults.	—	—
F 092	Lock of parameters	0: Parameters are changeable, max. frequency can not over 120.0Hz. 1: Parameters are locked, max. frequency can not over 120.0Hz. 2: Parameters are changeable, max. frequency can over 120.0Hz. 3: Parameters are locked, max. frequency can over 120.0Hz.	0 ~ 3	—
F 093	Selection of automatic voltage regulation	0: Indicate that voltage is not regulated automatically. 1: Indicate that voltage is regulated automatically.	0,1	—
F 094	Selection of the overload protection of inverter (OLI)	0: Indicate that there is no overload protection. 1: Indicate that there is overload protection.	0,1	—
F 095	Voltage level of power source	The range of setting is in accordance with power source.	190.0~240.0V 340.0~460.0V	0.1V
F 096	Creeping frequency setting	The output frequency is accelerated to creeping frequency and then is in constant frequency.	0.0~400.0 Hz	0.1Hz
F 097	Time duration of creep	The time interval for output frequency to be accelerated to creeping frequency.	0.0~25.5 sec	0.1s
F 098	No. external indicator	No. external indicator connected to inverter.	0 ~ 3	—
F 099	Selection of display of external indicator 1	Selection of display of external indicator 1	0 ~ 8	—
F 100	Selection of display of external indicator 2	Selection of display of external indicator 2	0 ~ 8	—
F 101	Selection of display of external indicator 3	Selection of display of external indicator 3	0 ~ 8	—
F 102	Selection of energy saving device	0: do not equip energy-saving device. 1: equip energy-saving device.	0,1	—
F 103	Decrease frequency of deceleration time of shutdown power source	If power source shutdown, then the frequency = output frequency - decrease frequency.	0.0 ~ 20.0	0.1Hz
F 104	Deceleration time 1 of power source for shutdown	Deceleration time when output frequency larger than switch frequency(F_106)	0.0 ~ 3200.0	0.1 sec.
F 105	Deceleration time 2 of power source for shutdown	Deceleration time when output frequency smaller than switch frequency(F_106)	0.0 ~ 3200.0	0.1 sec.
F 106	Switch frequency of power source for shutdown	Frequency setting value of switch the deceleration time of speed level 2.	0.0 ~ 400.0	0.1Hz
F 107	Selection of parameter of ADJ1	Selecting parameter of ADJ1 of KP-202	0 ~ 46	—
F 108	Selection of parameter of ADJ2	Selecting parameter of ADJ2 of KP-202	0 ~ 46	—
F 109	Selection of parameter of ADJ3	Selecting parameter of ADJ3 of KP-202	0 ~ 46	—
F 110	Selection of parameter of ADJ4	Selecting parameter of ADJ4 of KP-202	0 ~ 46	—
F 111	Selection of parameter of ADJ5	Selecting parameter of ADJ5 of KP-202	0 ~ 46	—
F 112	Selection of parameter of ADJ6	Selecting parameter of ADJ6 of KP-202	0 ~ 46	—
F 113	Selection of parameter of DIP1	Selecting parameter of DIP1 of KP-202	0 ~ 15	—
F 114	Selection of parameter of DIP2	Selecting parameter of DIP2 of KP-202	0 ~ 15	—
F 115	Selection of parameter of DIP3	Selecting parameter of DIP3 of KP-202	0 ~ 15	—
F 116	Selection of parameter of DIP4	Selecting parameter of DIP4 of KP-202	0 ~ 15	—
F 117	Selections of resumption of factory setting	0:useless CLF:clear fault records SAv:store settings rES:resume last settings dEF60:resume the factory settings of 60Hz dEF50:resume the factory settings of 50Hz rd_EE:digital keypad(KP-201)←inverter parameters Wr_EE:digital keypad(KP-201)→inverter parameters	—	—

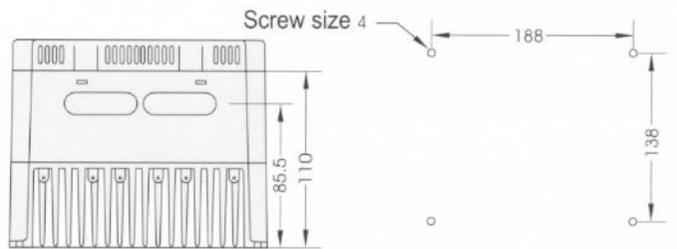
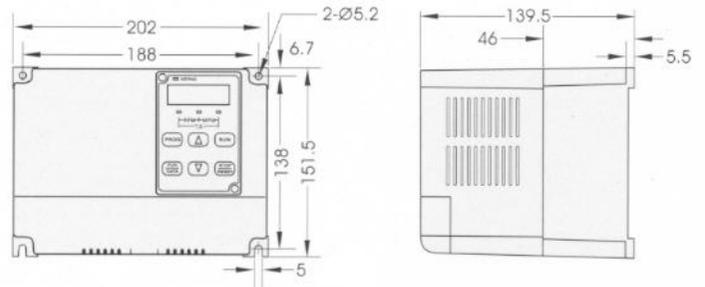
 The color as means which can be set during operation.

Outline drawings

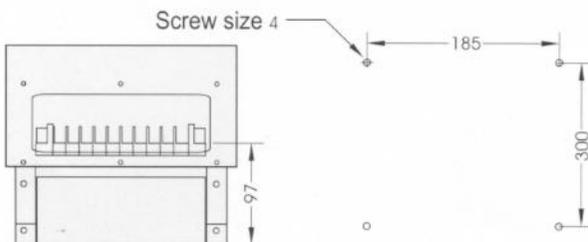
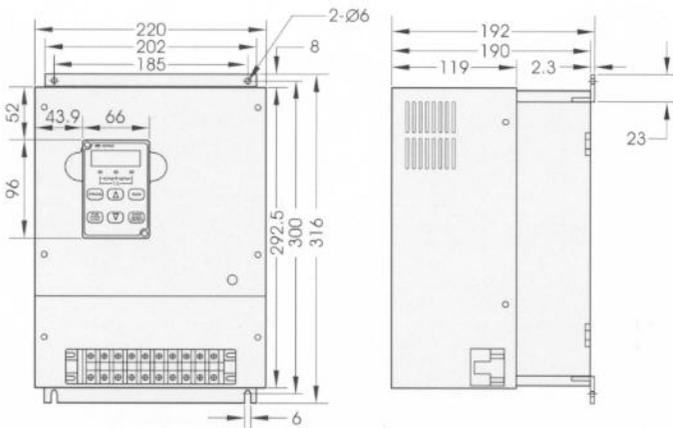
Unit:mm



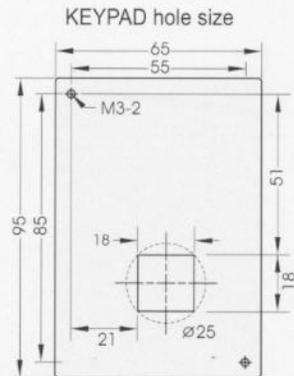
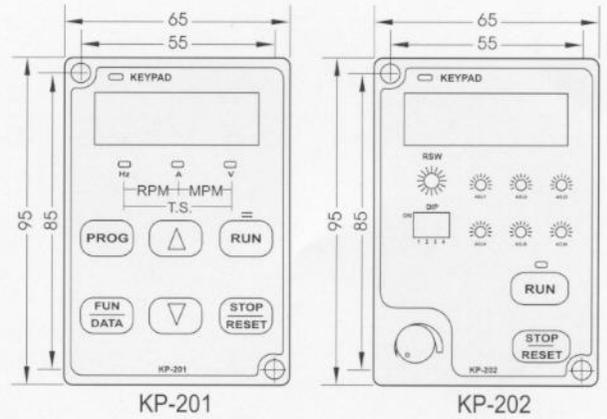
RM5 1/2-2HP



RM5 3-5HP



RM5 7.5-10HP



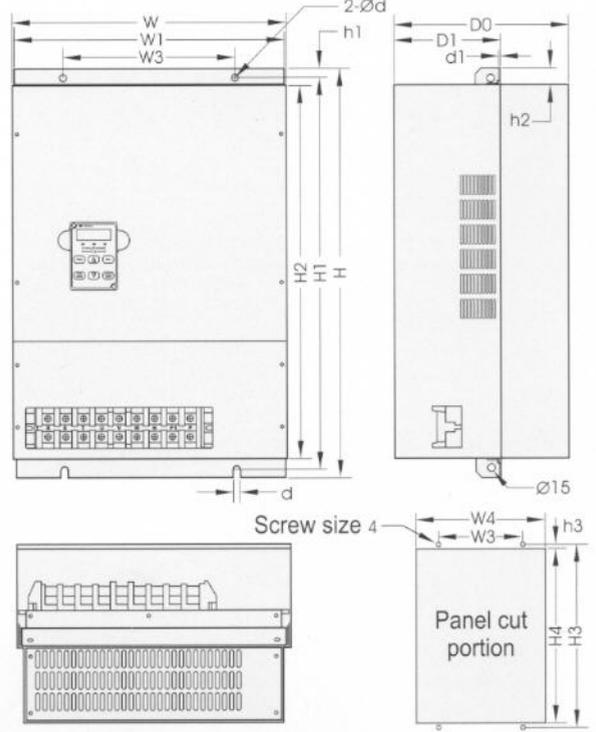
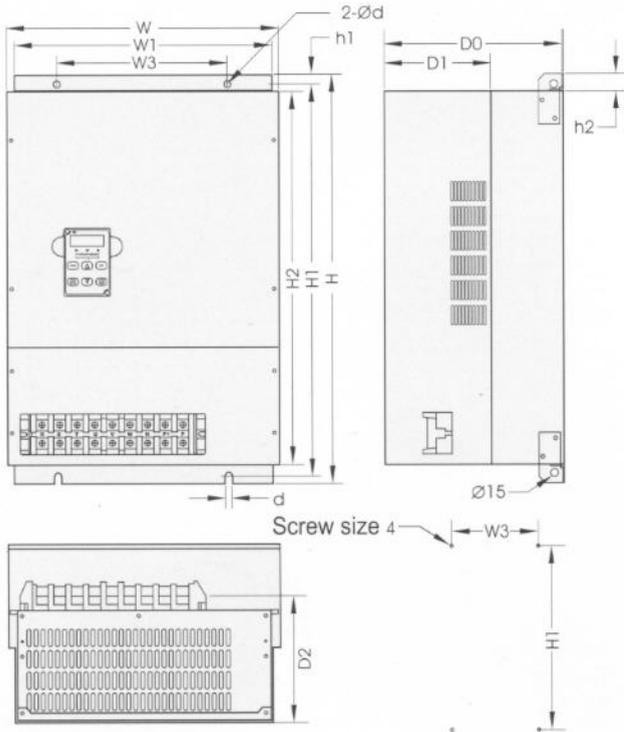
RM5 keypad size

Outline drawings

Unit:mm

Internal cooling type

External cooling type



RM5 15-150HP

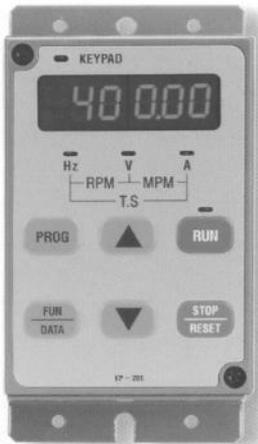
RM5 200V Series

Nominal Motor (HP/KW)	Size(mm)																	Screw (mm)	
	W	W1	W2	W3	W4	H	H1	H2	H3	H4	h1	h2	h3	D0	D1	D2	d		d1
15/11	270	253	253	235	257	460	445	429	446	432	7.5	25	6.5	230	100	200	10	2.3	M8
20/15																			
25/18.5																			
30/20	380	359	374	275	354	548.5	528.5	502	529.5	506	12	25	12	285	170	189	10	2	M8
40/30																			
50/37																			
60/45	440	419	434	275	427	685	660	629.5	661	636.5	15	30	12	285	170	205	12	2	M10
75/55																			
100/75																			
100/75	501.5	479	494	275	487	816.5	786.5	750	784.5	758	18	35	12	365	250	300	15	3	M12

RM5 400V Series

Nominal Motor (HP/KW)	Size(mm)																	Screw (mm)	
	W	W1	W2	W3	W4	H	H1	H2	H3	H4	h1	h2	h3	D0	D1	D2	d		d1
15/11	270	253	253	235	257	460	445	429	446	432	7.5	25	6.5	230	100	200	10	2.3	M8
20/15																			
25/18.5																			
30/20	380	359	374	275	354	548.5	528.5	502	529.5	506	12	25	12	285	170	189	10	2	M8
40/30																			
50/37																			
60/45	440	419	434	275	427	685	660	629.5	661	636.5	15	30	12	285	170	205	12	2	M10
75/55																			
100/75																			
125/90	501.5	479	494	275	487	816.5	786.5	750	784.5	758	18	35	12	365	250	300	15	3	M12
150/110																			

Remote controllers



KP-201



KP-202

Digits display



RAC-01



RAC-02

RPM display



Remote indicators DM-501

- Hz** Output frequency
- V** DC Voltage
- V** AC Voltage
- A** Output current
- rpm** Motor speed
- mpm** Line velocity
- TS** Status of terminals



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