

**R** RHYMEBUS

# AC MOTOR DRIVE

## ENERGY SAVING SOLUTION

**RM6** Series

### [The Dandelion Design

Dandelions are always dancing in the wind, visiting here and there depending on where the wind takes them. They are always ready to fly and embrace life as it is, just like Rhymebus' AC motor drives cutting energy loss through providing constant voltage and switching frequencies, generating a greener lifestyle, leading new lives.

**Green Tech**  
Green Life



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XB200195/1711 Ver1

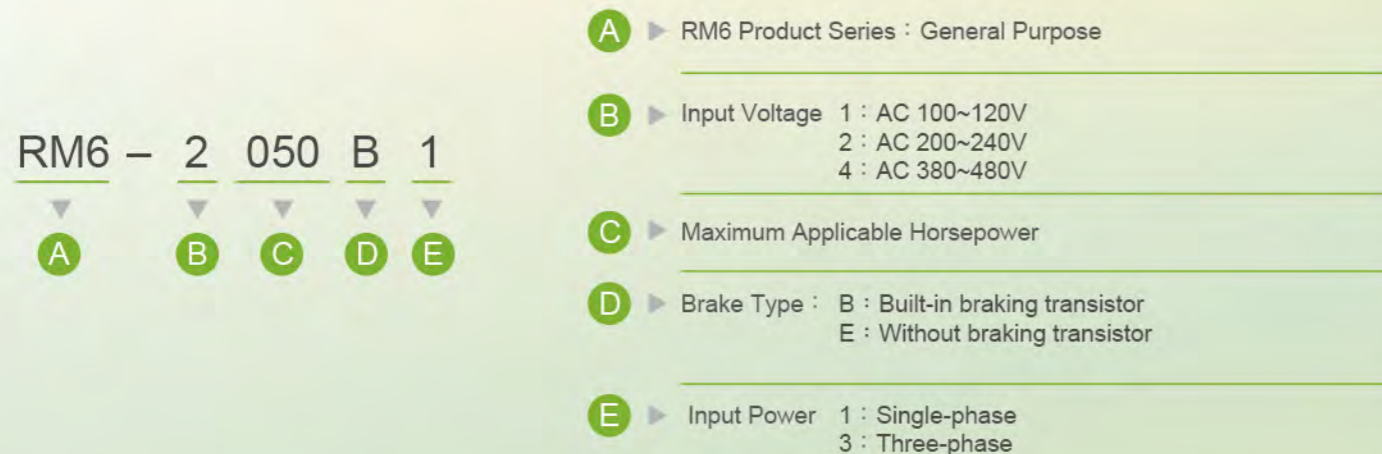
## 01 / Company Introduction



## 02 / RM6 Series

The design concept of RM6 is based on energy saving application. The core controlling technology includes the newest IGBT control technology, and digital control system. Regarding operation, other than the user-friendly interface, RM6 also developed multiple interfaces for energy saving applications, making importing energy saving from factory to everyday life easier to realize. RM6 will be your best choice for cutting energy consumption and creating environmental friendly conditions.

## 03 / Model Number Scheme



## 04 / Characteristics

1. Provides standard RS-485 communication function, capable of controlling the drive with HMI or PC through Modbus RTU communication interface.
2. Built-in PID control function, applicable to constant pressure control. Provides pressure start-stop control and self-protection under abnormal situation, making constant pressure control easier and simpler to monitor.
3. Automatically detect, signal warning, and display temperature of the inverter; allows setting overheat warning for planning fan maintenance in advance. Signals before fan malfunction, notifies for maintenance; decreases loss due to idle machines, keeps the system stable.
4. Includes start-stop control for fan by temperature.  
Allows start-stop control function for the fan controlled by the drive's temperature; saves energy, extends service life of the fan, prolongs maintenance cycle.
5. Case5~9 use metal fans and are designed for easy fan replacement; the fans are easy to maintain and have long service lives, reducing workload for maintenance personnel. Upon power-cuts, the fan can run by itself for one minute, removing waste heat.
6. Provides 9 types of display for quick condition monitoring, allows the user to easily grasp the condition of the system.  
Simultaneously showing output frequency, output voltage, output current, cooler temperature, set pressure, actual pressure, and etc.
7. Uses hot plugging design, allows external display up to 100 meters.  
The keypad uses common internet wires and 8-pin terminals for PC, convenient for installation.
8. Provides a wide range of carrier frequency adjustments from 800Hz to 15kHz, according to different system demands.  
The system carrier frequency can be set to a minimum of 800Hz, efficiently lowering the level of interruption from high frequency radiations, and to a maximum of 15kHz, reducing motor noises.
9. Torque motor frequency and torque control function.  
Provides 2 sets of analog input that can control torque motor's frequency and torque separately.
10. Provides password lock for parameter settings. Allows parameters to be locked and hidden after setting, prevents system parameters from leaking or human error.  
Safeguards important parameters, enjoy the complete after-sale service.
11. Built-in inrush current and voltage varistors (does not include 5HP and lower), reduces damages caused by high/low inrush currents.
12. Regarding the detachable control terminal, if the model chosen is CASE 1 or above, the standard equipment will be non-detachable terminal; can be customized accordingly, convenient for maintenance and reduces replacing time.
13. Load mode switching function  
Heavy load/normal load switching function, allows choosing 150% or 120% over-load protection accordingly.  
Heavy load: fixed torque load (mixer, conveyor, etc.)  
Normal load: variable torque load (windmill, pumps, etc.)
14. Color LCD keypad optional, with multi-language settings, shows 4 informations at the same time.

## 05 / Standard Specifications

### Three-Phase 200V Series

| Model name (RM6-□□□□-B3/E3)             |                 | 20P5   | 2001   | 2002  | 2003   | 2005    | 2007    | 2010   | 2015   | 2020    | 2025    | 2030       | 2040   | 2050  | 2060  | 2075   | 2100               | 2125    | 2150    | 2200    | 2250    |
|---|-----------------|--|--------|-------|--------|---------|---------|--------|--------|---------|---------|------------|--------|-------|-------|--------|--------------------|---------|---------|---------|---------|
| Maximum Applicable Motor (HP/kW)        | Heavy Load      | 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 | 200/160 | 250/200 |
|   | Normal Load     | 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 | 175/132 | 250/200 | -       |
| Rated Output Capacity(kVA)              | Heavy Load      | 1.1  | 1.9    | 3     | 4.2    | 6.9     | 9.5     | 13     | 18     | 24      | 29      | 34         | 44     | 57    | 70    | 84     | 112                | 132     | 165     | 223     | 267     |
|   | Normal Load     | 1.6  | 2.6    | 3.8   | 5.8    | 8.0     | 12      | 16     | 23     | 29      | 34      | 43         | 57     | 70    | 84    | 105    | 132                | 156     | 191     | 267     | -       |
| Rated output current(A)                 | Heavy Load      | 3  | 5      | 8     | 11     | 18      | 25      | 33     | 47     | 63      | 75      | 90         | 115    | 150   | 185   | 220    | 295                | 346     | 432     | 585     | 700     |
|   | Normal Load     | 4.2  | 6.8    | 10    | 15.2   | 21      | 31      | 42     | 60     | 75      | 90      | 112        | 150    | 185   | 220   | 275    | 346                | 410     | 500     | 700     | -       |
| Rated Output Voltage(V)                 |                 | Three-phase 200~240V                         |        |       |        |         |         |        |        |         |         |            |        |       |       |        |                    |         |         |         |         |
| Range of Output Frequency(Hz)           | Heavy Load      | 0.1~400.00Hz                                 |        |       |        |         |         |        |        |         |         |            |        |       |       |        |                    |         |         |         |         |
|   | Normal Load     |  |        |       |        |         |         |        |        |         |         |            |        |       |       |        |                    |         |         |         |         |
| Power Source (Ψ, V, Hz)                 |                 | Three-phase 200~240V                         |        |       |        |         |         |        |        |         |         | 50/60Hz    |        |       |       |        |                    |         |         |         |         |
| Input Current (A)                       | Heavy Load      | 5  | 6      | 10    | 14     | 19      | 30      | 40     | 61     | 72      | 86      | 103        | 132    | 183   | 211   | 240    | 280                | 330     | 405     | 550     | 660     |
|   | Normal Load     | 5  | 8      | 12    | 18     | 25      | 41      | 56     | 68     | 86      | 103     | 128        | 183    | 211   | 240   | 280    | 330                | 385     | 470     | 660     | -       |
| Permissible AC Power Source Fluctuation |                 | 176~264V                                     |        |       |        |         |         |        |        |         |         | 50/60Hz±5% |        |       |       |        |                    |         |         |         |         |
| Overload Protection                     | Heavy Load      | 150% of drive rated output current for 1 min |        |       |        |         |         |        |        |         |         |            |        |       |       |        |                    |         |         |         |         |
|   | Normal Load     | 120% of drive rated output current for 1 min |        |       |        |         |         |        |        |         |         |            |        |       |       |        |                    |         |         |         |         |
| Cooling Capacity (CFM)                  | Natural cooling | 8.1  | 16.2   | 16.2  | 62.8   | 59.8    | 59.8    | 150    | 150    | 216     | 216     | 212        | 394    | 394   | 394   | 394    | 591                | 591     | 788     | 788     |         |
| Applicable Safety Standards             |                 | -  |        |       |        |         |         |        |        |         |         |            |        |       |       |        |                    |         |         |         |         |
| Protective Structure                    |                 | IP20   |        |       |        |         |         |        |        |         |         | IP20       |        |       |       |        | IP00 (IP20 OPTION) |         |         |         |         |
| Weight (kg)                             |                 | 1.8  | 1.8    | 1.9   | 2      | 2.1     | 3.0     | 5.4    | 5.7    | 12.4    | 13.1    | 14.7       | 14.8   | 42.7  | 44.3  | 46.3   | 63.6               | 89      | 90      | 164     | 167     |
| Case Code                               |                 | Case 1                                       |        |       | Case 2 |         | Case 3  |        | Case 4 |         |         |            | Case 5 |       |       | Case 6 |                    | Case 7  |         | Case 8  |         |

### Three-Phase 400V Series

| Model name (RM6-□□□□-B3/E3)             |                 | 4001   | 4002  | 4003  | 4005    | 4007    | 4010   | 4015  | 4020    | 4025    | 4030  | 4040  | 4050  | 4060   | 4075       | 4100   | 4125               | 4150    | 4175    | 4200    | 4250    | 4300    | 4350    | 4420    | 4500    | 4600    |  |
|---|-----------------|--|-------|-------|---------|---------|--------|-------|---------|---------|-------|-------|-------|--------|------------|--------|--------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| Maximum Applicable Motor (HP / kW)      | Heavy Load      | 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 | 175/132 | 200/160 | 250/200 | 300/220 | 350/250 | 420/315 | 500/375 | 600/450 |  |
|   | Normal Load     | 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            | 175/132 | 200/160 | 250/200 | 300/220 | 350/250 | 420/315 | -       | 600/450 | 700/500 |  |
| Rated Output Capacity(kVA)              | Heavy Load      | 1.9  | 3     | 4.6   | 6.9     | 11      | 14     | 18    | 25      | 30      | 34    | 46    | 57    | 69     | 88         | 114    | 137                | 165     | 193     | 236     | 287     | 329     | 366     | 446     | 533     | 660     |  |
|   | Normal Load     | 2.7  | 3.7   | 6.9   | 8.4     | 14      | 18     | 24    | 30      | 34      | 44    | 57    | 69    | 84     | 110        | 137    | 165                | 193     | 232     | 287     | 316     | 366     | 396     | -       | 655     | 732     |  |
| Rated output current (A)                | Heavy Load      | 2.5  | 4     | 6     | 9       | 14      | 18     | 24    | 33      | 39      | 45    | 61    | 75    | 91     | 115        | 150    | 180                | 216     | 253     | 310     | 377     | 432     | 480     | 585     | 700     | 866     |  |
|   | Normal Load     | 3.5  | 4.8   | 9     | 11      | 18      | 23     | 31    | 39      | 45      | 58    | 75    | 91    | 110    | 144        | 180    | 216                | 253     | 304     | 377     | 415     | 480     | 520     | -       | 860     | 960     |  |
| Rated Output Voltage (V)                |                 | Three-phase 380~480V                         |       |       |         |         |        |       |         |         |       |       |       |        |            |        |                    |         |         |         |         |         |         |         |         |         |  |
| Range of Output Frequency (Hz)          | Heavy Load      | 0.1~400.00Hz                                 |       |       |         |         |        |       |         |         |       |       |       |        |            |        |                    |         |         |         |         |         |         |         |         |         |  |
|   | Normal Load     |  |       |       |         |         |        |       |         |         |       |       |       |        |            |        |                    |         |         |         |         |         |         |         |         |         |  |
| Power Source (Ψ, V, Hz)                 |                 | Three-phase 380~480V                         |       |       |         |         |        |       |         |         |       |       |       |        | 50/60Hz    |        |                    |         |         |         |         |         |         |         |         |         |  |
| Input Current (A)                       | Heavy Load      | 3.5  | 5     | 8     | 12      | 16      | 22     | 28    | 42      | 47      | 52    | 74    | 86    | 105    | 136        | 155    | 181                | 202     | 217     | 288     | 355     | 401     | 440     | 540     | 650     | 806     |  |
|   | Normal Load     | 4.2  | 5.8   | 12    | 13      | 20      | 26     | 44    | 47      | 52      | 66    | 86    | 105   | 132    | 162        | 181    | 202                | 217     | 282     | 355     | 385     | 440     | 540     | -       | 800     | 900     |  |
| Permissible AC Power Source Fluctuation |                 | 332~528V                                     |       |       |         |         |        |       |         |         |       |       |       |        | 50/60Hz±5% |        |                    |         |         |         |         |         |         |         |         |         |  |
| Overload Protection                     | Heavy Load      | 150% of drive rated output current for 1 min |       |       |         |         |        |       |         |         |       |       |       |        |            |        |                    |         |         |         |         |         |         |         |         |         |  |
|   | Normal Load     | 120% of drive rated output current for 1 min |       |       |         |         |        |       |         |         |       |       |       |        |            |        |                    |         |         |         |         |         |         |         |         |         |  |
| Cooling Capacity (CFM)                  | Natural cooling | 8.1  | 16.2  | 16.2  | 62.8    | 62.8    | 59.8   | 59.8  | 59.8    | 150     | 216   | 216   | 216   | 212    | 394        | 394    | 394                | 394     | 591     | 591     | 788     | 788     | 788     | 788     | 1182    | 1182    |  |
| Applicable Safety Standards             |                 | -  |       |       |         |         |        |       |         |         |       |       |       |        |            |        |                    |         |         |         |         |         |         |         |         |         |  |
| Protective Structure                    |                 | IP20   |       |       |         |         |        |       |         |         |       | IP20  |       |        |            |        | IP00 (IP20 OPTION) |         |         |         |         |         |         |         |         |         |  |
| Weight (kg)                             |                 | 1.8  | 1.9   | 2     | 2       | 3.0     | 3.1    | 5.6   | 5.7     | 5.8     | 12.8  | 12.9  | 15    | 15.3   | 44         | 45.5   | 46.4               | 64      | 64.5    | 95      | 97      | 159     | 163     | 164     | 217     | 272     |  |
| Case Code                               |                 | Case 1                                       |       |       | Case 2  |         | Case 3 |       |         | Case 4  |       |       |       | Case 5 |            |        | Case 6             |         | Case 7  |         | Case 8  |         | Case 9  |         |         |         |  |

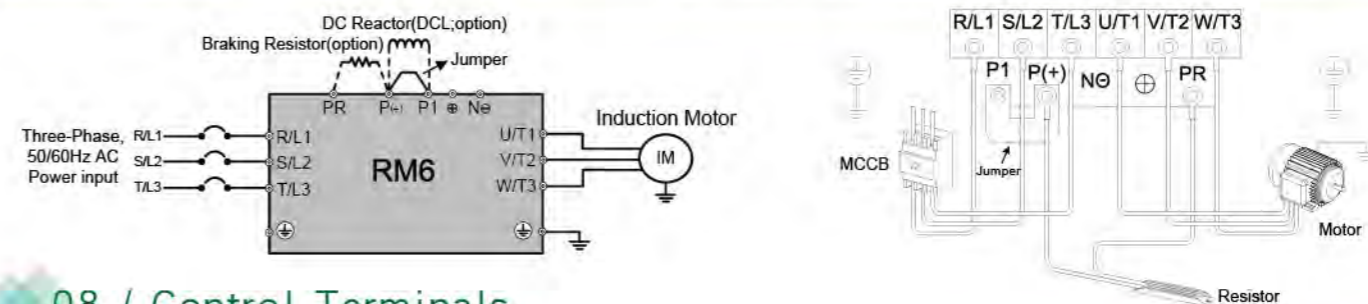
- ◆ The "Weight" in the standard specifics does not include ACL and DCL's weight.
- ◆ The "-" in Applicable Safety Standards stands for "planning".

## 06 / Common Standards

|                           |  |  |  |
|---------------------------|--|--|--|
| Control Characteristics   | Control Method   | <ul style="list-style-type: none"> <li>Voltage vector sinusoidal PWM control (V/F control).</li> <li>Switching frequency: 800Hz~15kHz.</li> </ul>  |  |
|                           | Range of Frequency Setting   | <ul style="list-style-type: none"> <li>Heavy load 0.1~400.00Hz</li> <li>Normal load 0.1~400.00Hz</li> </ul>  |  |
|                           | Resolution of Frequency Setting  | <ul style="list-style-type: none"> <li>Digital Keypad (KP-603) : 0.01Hz</li> <li>Analog signal : 0.06Hz / 60Hz</li> </ul>  |  |
|                           | Resolution of Output Frequency   | 0.01Hz   |  |
|                           | Frequency Setting Signal   | DC 0~10V / 4~20mA  |  |
|                           | Overload Protection  | <ul style="list-style-type: none"> <li>Heavy Load : 150% of drive rated output current for 1 minute.</li> <li>Normal Load : 120% of drive rated output current for 1 minute.</li> </ul>  |  |
|                           | DC Braking   | <ul style="list-style-type: none"> <li>Time of DC braking after stopping/before starting: 0~20.0sec</li> <li>DC braking frequency when stopping: 0.1~60Hz</li> <li>DC braking level: 0~150% of rated current</li> </ul>  |  |
|                           | Braking Torque   | Approximately 20% (with built-in braking transistor connected, braking torque is approximately 100%).  |  |
|                           | Acceleration/Deceleration Time   | <ul style="list-style-type: none"> <li>0sec (coast to stop), 0.0~3200.0sec (independent setting of acceleration/deceleration).</li> <li>Time of acceleration from 0Hz to 60Hz is 0.015sec ~ 19,200,000sec (222 days).</li> <li>Time of deceleration from 60Hz to 0Hz is 0.015sec ~ 19,200,000sec (222 days)</li> </ul> |  |
|                           | V/F Pattern  | <ul style="list-style-type: none"> <li>Pattern Linear mode, Energy saving mode (automatically adjusts V/F pattern according to the load condition)</li> <li>V/F pattern (2 V/F points).</li> <li>The voltage of the V/F pattern can be adjusted independently by analog input signal.</li> </ul>                       |  |
| Other Functions           | Slip compensation, auto-torque compensation, auto-adjustment for output voltage stability, auto-operation for energy-saving, auto-adjustment of switching frequency, restart after instantaneous power failure, speed tracing, overload detection, acceleration/deceleration switch, parameters copy |  |  |
| Operation Characteristics | Input  | Start Method   | Forward/ Reverse, Communication interface (RS-485 Modbus), 16 sets speed, 3-wire self-holding FWD/REV control.   |
|                           |  | Multi-function Inputs  | 6 sets of programmable input terminals: X1~X6<br>Allows to set jog command, secondary accel./decel. time command, multi-speed level command, reset command...etc.  |
|                           | Output   | Analog Inputs  | <ul style="list-style-type: none"> <li>Vin - GND : DC 0~10V</li> <li>Iin - GND : DC 4~20mA / 2~10V 或 DC 0~20mA / 0~10V</li> </ul>  |
|                           |  | Multi-function Outputs   | 4 sets programmable output detection terminal :<br>Ta2~Tb2~Tc2 · Ta1~Tb1~Tc1 · Y1~CME · Y2~CME   |
|                           |  | Analog Outputs   | <ul style="list-style-type: none"> <li>"FM+" - "M-" : DC 0 ~ 10V</li> <li>"AM+" - "M-" : DC 0 ~ 10V</li> </ul> Analog Output Signal Selection: output frequency, frequency command, output current...etc   |
| Display                   | LED Keypad (KP-603)  | Output frequency, frequency command, output voltage, DC bus voltage, output current, motor speed(RPM), machine speed(MPM), terminal status and heat sink temperature, actual pressure and setting pressure.  |  |
|                           | LCD Keypad (KP-602)  | Multi-language settings, shows 4 types of monitor display at the same time   |  |
|                           | External Monitor (DM-501)  | Independent external display can be added for up to three sets (96mm * 48mm, 5 digits) to show output frequency, frequency command, output voltage, DC bus voltage, output current, terminal status and heat sink temperature, machine speed, motor speed(RPM).  |  |
| Protections               | Fault Protection   | Error Trip Messages of Drive   | EEPROM error(EEr), A/D converter error(AdEr), Fuse open(SC), Under voltage during operation(LE1), Drive over current(OC), Grounding fault (GF), Over voltage(OE), Drive overheat (OH), Drive overheat (Ht), Motor overload(OL), Drive overload(OL1), System overload(OLO), External fault(thr), NTC thermistor sensor fault(ntCF), Keypad interruption during copy(PAdF), Modbus communication overtime(Cot) |
|                           |  | Error Trip Messages of Drive for Pressure Control  | PID feedback signal error(no Fb), Over pressure(OP)  |
|                           | Warning Messages of Drive  | Warning Messages of Drive  | Power source under voltage(LE), Drive output interruption (bb), Coast to stop(Fr), Dynamic brake transistor over voltage(db), Software fault(PrEr), Drive overheat (Ht), Keypad cable trip before connecting(Err_00), Keypad cable trip during operation(Err_01), Over pressure(OP)  |
|                           |  | Cooling Method   | <ul style="list-style-type: none"> <li>Natural cooling : 1001/2, 1001, 2001/2, 2001, 4001,4002 models.</li> <li>Fan cooling : Three fan control methods for cooling (forced air, operation air, temperature level setting) for other models.</li> </ul>  |
| Environment               | Location   | Non-corrosive, non-conductive, or non-explosive gas or liquid, and non-dusty   |  |
|                           | Surrounding Temperature  | <ul style="list-style-type: none"> <li>Heavy Load : -10°C(14°F) ~ +50°C(122°F) (Non-freezing and non-condensing)</li> <li>Normal Load : -10°C(14°F) ~ +40°C(104°F) (Non-freezing and non-condensing)</li> </ul>  |  |
|                           | Storage Temperature  | -20°C(-4°F) ~ +60°C(149°F)   |  |
|                           | Relative Humidity  | 90% RH or less (Non-condensing atmosphere)   |  |
|                           | Vibration  | Less than 5.9m/sec <sup>2</sup> (0.6G)   |  |
|                           | Altitude   | Less than 1000m (3280 ft.)   |  |

## 07 / Main Circuit Terminals

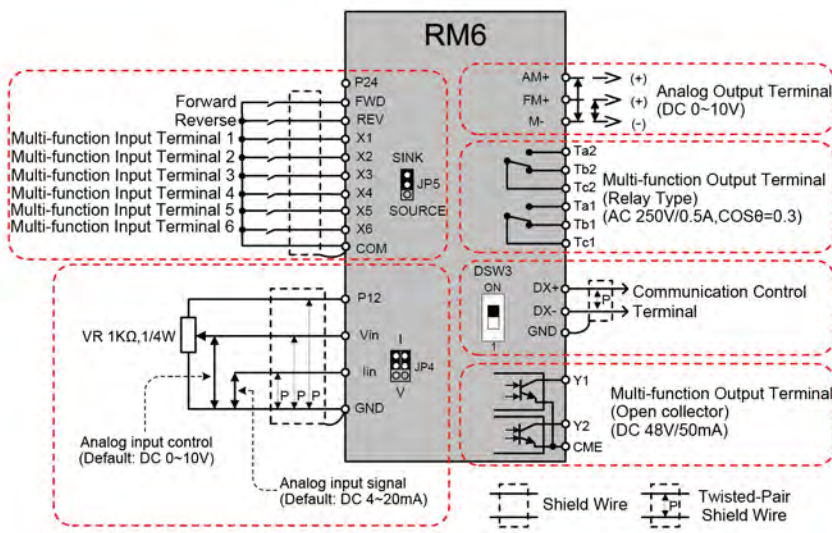
| Type              | Symbol          | Function                           | Description  |
|-------------------|-----------------|------------------------------------|--|
| Power Source      | R,S             | AC power source input terminals    | Single-phase; sinusoidal power source input terminals.   |
|                   | R,S,T(L1,L2,L3) |                                    | Three-phase; sinusoidal power source input terminals.  |
|                   | ⊕, N⊖           | DC power source input terminals    | External DC power source terminal.<br>※Only 2007, 2010, 2015, 4007, 4010, 4015, 4020, 4025 models have the terminal.   |
| Motor             | U,V,W(T1,T2,T3) | Drive outputs to motor terminals   | Output three-phase variable frequency and voltage to motor.  |
| Power and Braking | P⊕, N⊖          | Dynamic brake unit terminal        | The terminals can connect to dynamic braking unit (option).  |
|                   | P⊕, PR          | External braking resistor terminal | The terminals can connect to external brake resistor (option)  |
|                   | P⊕, P1          | External reactor terminal          | The terminal can connect to DC reactor (DCL) for improving power factor. The default setting is connected by a jumper. |
| Grounding         | PE(or G)        | Grounding terminal                 | Ground the drive in compliance with the NEC standard or local electrical code.   |



## 08 / Control Terminals

| Type                     | Symbol  | Function                                     | Description   |
|--------------------------|---|--|---|
| Control power            | P24   | Power terminal;                              | Output DC+24V; Maximum supplied current is 50mA.  |
|                          | P12/12V   | Control device usage                         | Output DC+12V; Maximum supplied current is 20mA.  |
|                          | GND(COM)  | Common of analog input control terminal      | Common terminal for control power (P12/12V,P24) and analog input terminal (Vin, Iin). Common terminal of COM and GND.   |
| Input terminals          | FWD   | Forward command terminal                     | Connect the FWD and COM terminals for forward operation. (F_001=0,1,2)  |
|                          | REV   | Reverse command terminal                     | Connect the REV and COM terminals for reverse operation. (F_001=0,1,2)  |
|                          | X1  | Multi-function input terminal 1              | The description of function is set up by the setting value • Default setting: Multi-speed level 1 command   |
|                          | X2  | Multi-function input terminal 2              | The description of function is set up by the setting value • Default setting: Multi-speed level 2 command   |
|                          | X3  | Multi-function input terminal 3              | The description of function is set up by the setting value • Default setting: Jog command   |
|                          | X4  | Multi-function input terminal 4              | The description of function is set up by the setting value • Default setting: Secondary accel./decel. time command  |
|                          | X5  | Multi-function input terminal 5              | The description of function is set up by the setting value • Default setting: External fault command  |
|                          | X6  | Multi-function input terminal 6              | The description of function is set up by the setting value • Default setting Reset Command  |
| Control circuit terminal | COM(GND)  | Default setting                              | Common of digital input control signal terminals. (FWD, REV and X1 ~ X6)  |
|                          | Vin   | Analog input terminal                        | Input range: DC 0~10V   |
|                          | Iin   | Analog input terminal                        | <ul style="list-style-type: none"> <li>Input signal selection: JP4: I-position(current signal) / V-position(voltage signal)</li> <li>Input range: DC 4~20mA (2~10V) or DC 0~20mA (0~10V)</li> </ul> |
|                          | FM+ / AM+   | Analog output terminals                      | Voltage meter with 10V full scale spec.(meter impedance: 10kΩ above) • Maximum output current: 1mA  |
|                          | M-  | Common of analog output terminals            | Common of analog output terminals.  |
|                          | Ta1   | Multi-function output terminals (relay type) | <ul style="list-style-type: none"> <li>N.O (contact a) (default setting: Error detection).</li> <li>Capacity: AC250V, 0.5Amax, cosθ=0.3</li> </ul>  |
|                          | Tb1   |  | <ul style="list-style-type: none"> <li>N.C (contact b)</li> <li>Capacity: AC250V, 0.5Amax, cosθ=0.3</li> </ul>  |
|                          | Tc1   |  | Common terminal for Ta1,Tb1.  |
|                          | Ta2   |  | <ul style="list-style-type: none"> <li>N.O (contact a) (default setting: Detection during operating).</li> <li>Capacity: AC250V, 0.5Amax, cosθ=0.3</li> </ul>                                       |
|                          | Tb2   |  | <ul style="list-style-type: none"> <li>N.C (contact b)</li> <li>Capacity: AC250V, 0.5Amax, cosθ=0.3</li> </ul>  |
| Tc2                      | Common terminal for Ta2,Tb2.                          |  |   |
| Y1                       | Multi-function output terminals (open collector type) | Common terminal for Y1,Y2.                   |   |
| Y2                       |   |  | Capacity: DC48V, 50mAmax  |
| CME                      |   |  | Common terminal of Y1, Y2.  |

## 09 / Control Terminals Wiring Diagram



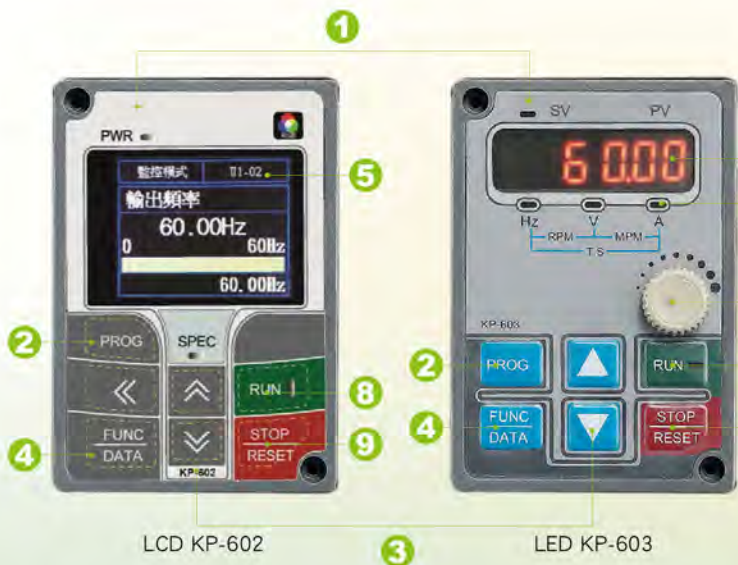
- ◆ SINK / SOURCE selection ;  
The signal input selection of multi-function input terminal FWD、REV、X1~X6
- ◆ I / V selection; ;  
I position: lin-GND terminal is inputted with the current signal.(default) V position: lin-GND terminal is inputted with the voltage signal.
- ◆ The terminal resistor selection for Communication Control: The internal resistance is 100Ω.
- ◆ The analog input selection is DC 0-10V or DC 4-20mA

## 10 / Communication Control Terminal

| Type                   | Symbol | Function                                  | Description  |
|------------------------|--------|---|--|
| External Communication | DX+    | Signal Transmission Terminal(+)           | • With HMI/NB to control RM6 series drive<br>• Communication protocol: Modbus  |
|                        | DX-    | Signal Transmission Terminal(-)           |  |
|                        | FG     | Grounding Terminal of Signal Transmission | Grounding terminal of shielding wire.  |
| Terminal Resistor      | DSW3   | Grounding Terminal of Signal Transmission | • When controlling multiple drives with external device, switch the DSW3 to "ON" position on the first and last drive<br>• Terminal resistance: 100Ω |

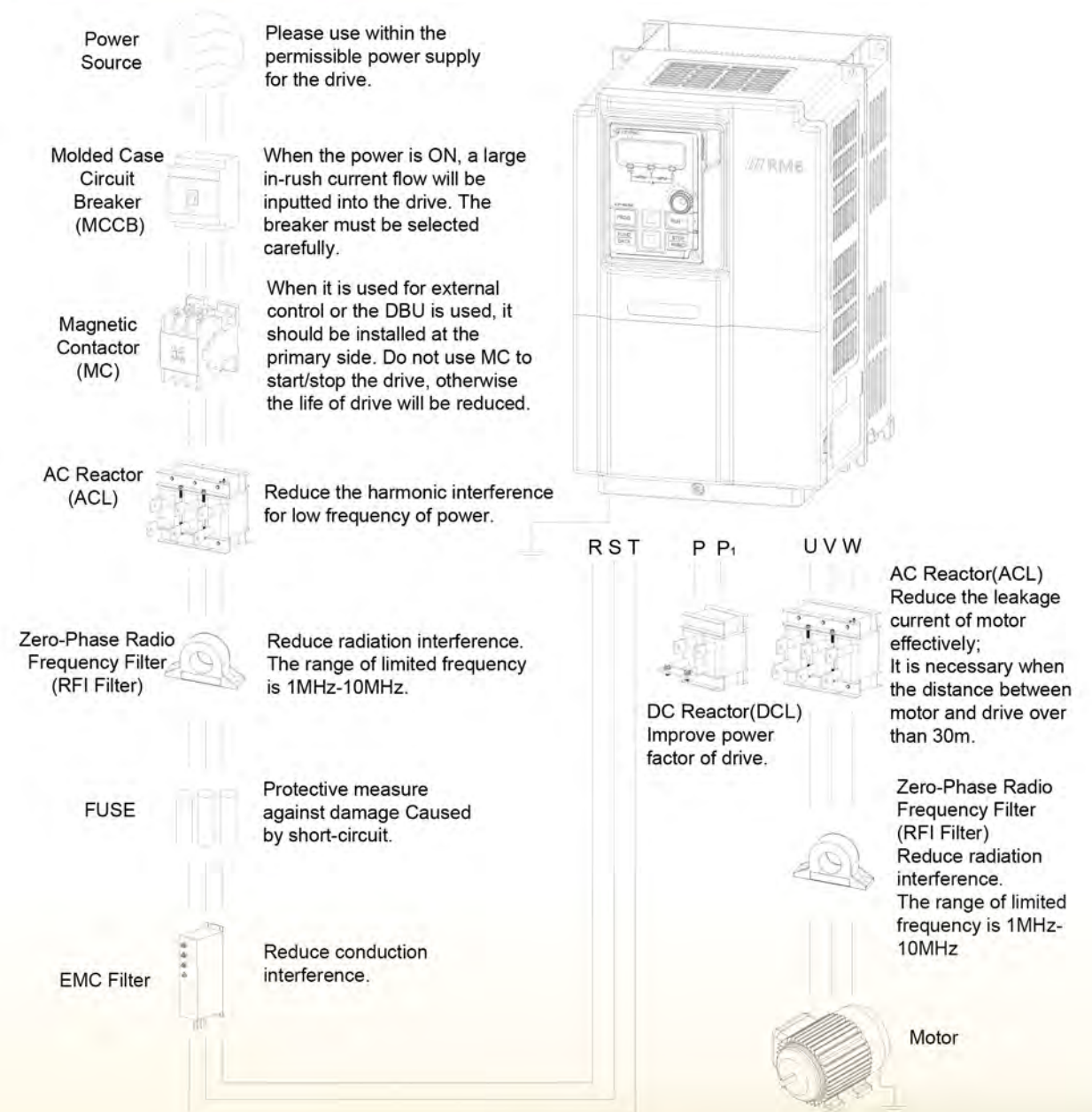
Note: The total length of connecting cable cannot exceed 500 meters.

## 11 / Keypad



1. Light on : Primary Frequency Command is set up by keypad or UP/Down terminal  
Light off : Primary Frequency Command is set up by multi-functional terminal
1. Enter the function setting mode  
2. Back to the monitor mode
- Adjust settings and parameters
1. Enter the parameter setting mode  
2. Back to the function setting mode  
3. Switch the monitor mode
- Panel Display
- Indicator for Units
- Pot
- Drive start key  
Blinking : accelerating/decelerating  
Light on : constant speed  
Light off : stops
1. Drive stops (Cut off the output frequency of terminals)  
2. Fault reset

## 12 / Peripheral Equipment of Drive



### ACL Applicable Timing Advise

#### Input :

- ◆ When the power capacity is over 500kVA or more than ten times of the rated capacity of the drive, adding the ACL is necessary.
- ◆ When the heater (with the SCR), air compressor, high-frequency equipment, or welding machine is installed at the same power source system, the harmonic current will interfere the drive.

#### Output :

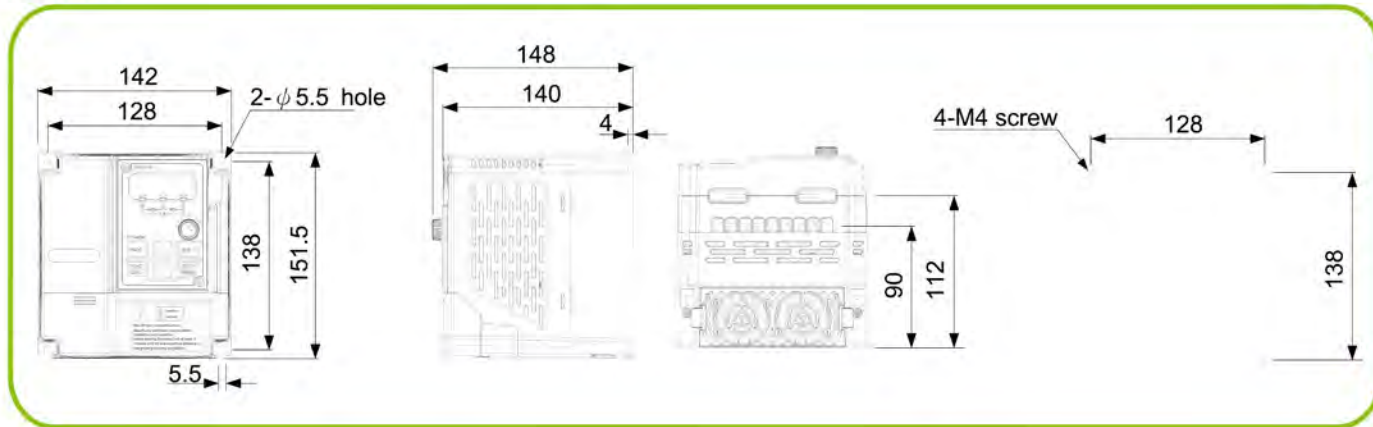
- ◆ When the cable length between the drive and the motor is over 30 meters, or when multiple motors are used in parallel.

When horse power of drive is 100HP (included) or above, ACL is the standard equipment.

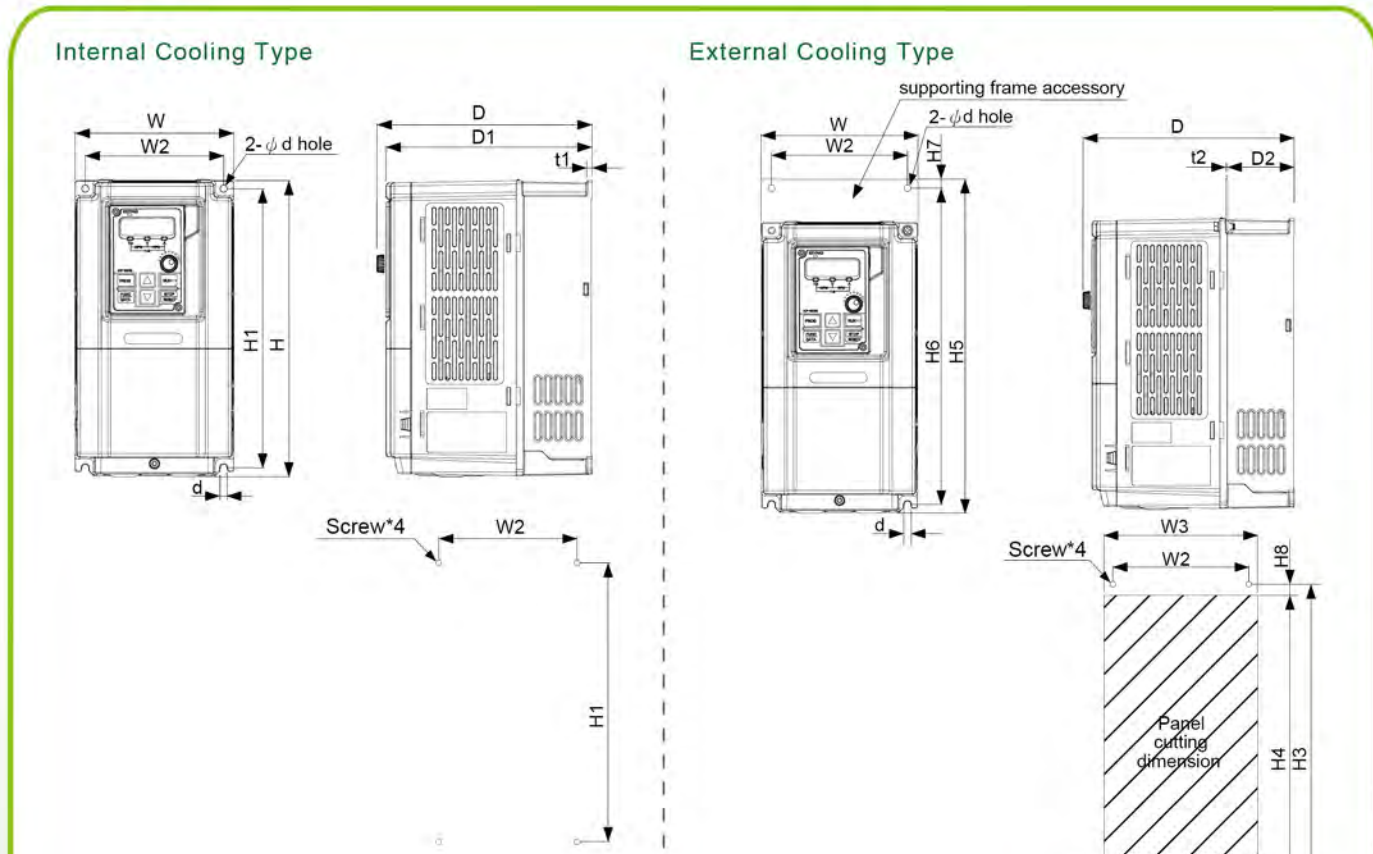
When the drive is 175HP (included) or above, DCL is the standard equipment.

## 13 / Outline Dimension

case 1



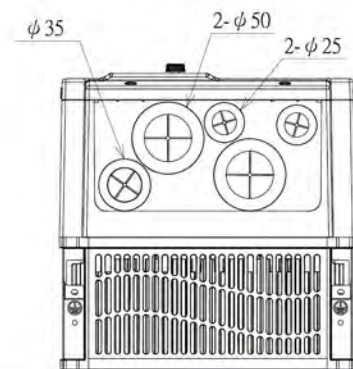
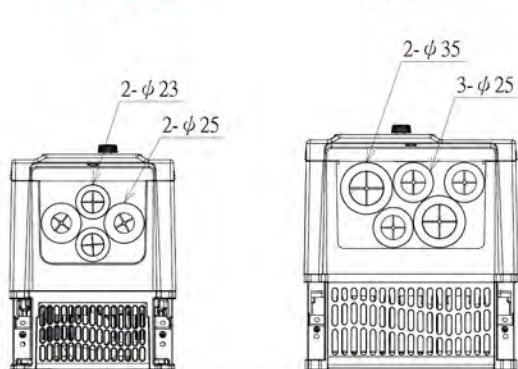
case 2~4



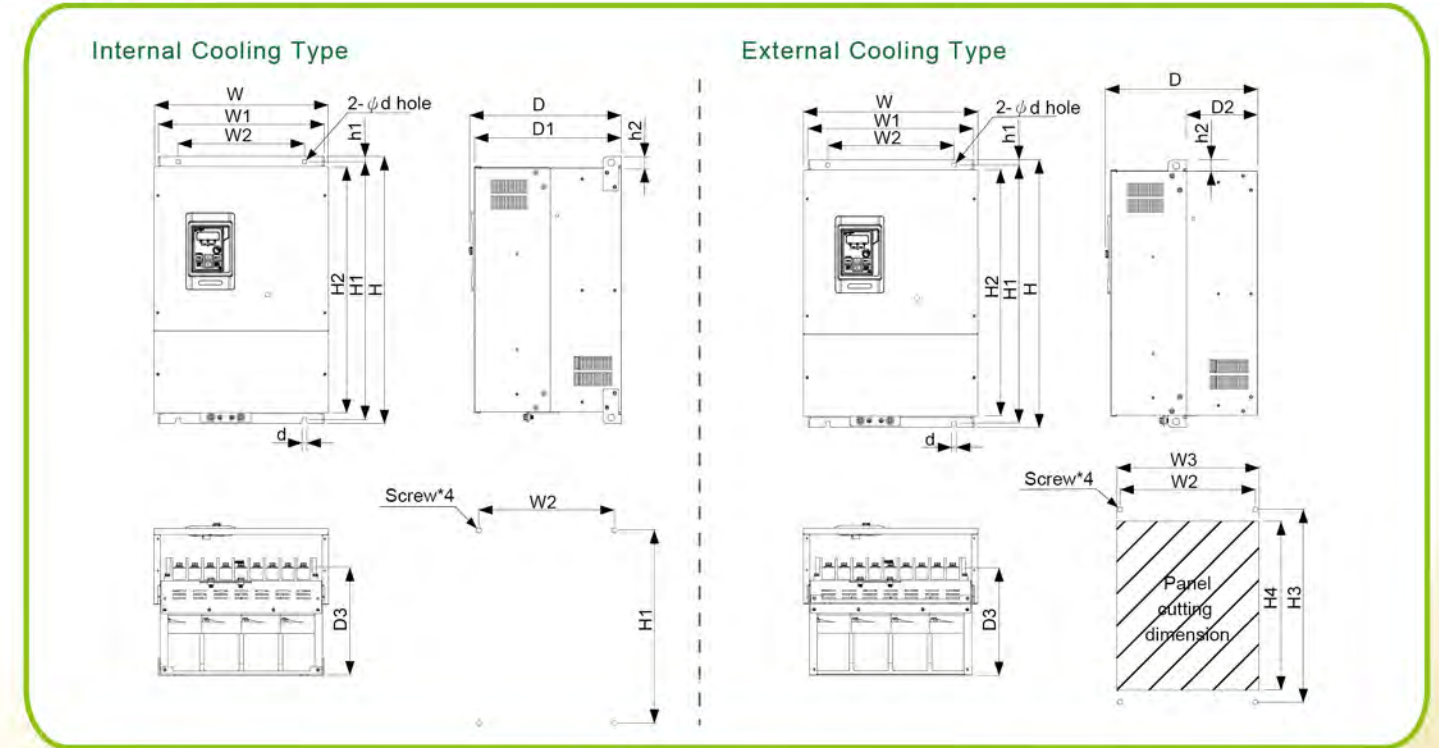
case 2

case 3

case 4



case 5~9



RM6

| Case  | Model number |           | Dimension(mm) |     |     |     |     |       |      |     |      |     |     |     |    |      |      |    |    |     |     |     | Screw (mm) |     |     |     |     |
|-------|--------------|-----------|---------------|-----|-----|-----|-----|-------|------|-----|------|-----|-----|-----|----|------|------|----|----|-----|-----|-----|------------|-----|-----|-----|-----|
|       | 200V         | 400V      | W             | W1  | W2  | W3  | W4  | H     | H1   | H2  | H3   | H4  | H5  | H6  | H7 | H8   | H9   | h1 | h2 | t1  | t2  | D   |            | D1  | D2  | D3  | d   |
| CASE1 | 0.5~5HP      | 1~5HP     | 142           | -   | 128 | -   | -   | 151.5 | 138  | -   | -    | -   | -   | -   | -  | -    | -    | -  | -  | 4   | -   | 148 | 140        | -   | -   | 5.5 | M4  |
| CASE2 | 7.5HP        | 7.5~10HP  | 140           | -   | 122 | 138 | 105 | 260   | 246  | -   | 284  | 267 | 300 | 284 | 8  | 10   | 14.5 | -  | -  | 4.7 | 1.2 | 190 | 182        | 60  | -   | 6   | M5  |
| CASE3 | 10~15HP      | 15~25HP   | 180           | -   | 162 | 178 | 149 | 290   | 277  | -   | 313  | 290 | 329 | 313 | 8  | 10   | 20   | -  | -  | 9   | 1.6 | 207 | 199        | 74  | -   | 6.5 | M5  |
| CASE4 | 20~40HP      | 30~60HP   | 250           | -   | 230 | 248 | 212 | 400   | 380  | -   | 427  | 396 | 448 | 427 | 10 | 11.5 | 29   | -  | -  | 9.5 | 2   | 258 | 250        | 103 | -   | 9   | M8  |
| CASE5 | 50~75HP      | 75~125HP  | 386           | 361 | 275 | 365 | -   | 584   | 562  | 539 | 564  | 545 | -   | -   | -  | -    | -    | 11 | 25 | -   | -   | 331 | 323        | 155 | 242 | 10  | M8  |
| CASE6 | 100HP        | 150~175HP | 446           | 418 | 275 | 427 | -   | 685   | 660  | 630 | 662  | 634 | -   | -   | -  | -    | -    | 14 | 30 | -   | -   | 334 | 326        | 163 | 246 | 12  | M10 |
| CASE7 | 125~150HP    | 200~250HP | 508           | 479 | 275 | 487 | -   | 818   | 785  | 751 | 788  | 758 | -   | -   | -  | -    | -    | 19 | 35 | -   | -   | 374 | 366        | 183 | 257 | 15  | M12 |
| CASE8 | 200~250HP    | 300~420HP | 696           | 654 | 580 | 657 | -   | 1000  | 974  | 929 | 978  | 936 | -   | -   | -  | -    | -    | 15 | 39 | -   | -   | 413 | 405        | 182 | 294 | 15  |     |
| CASE9 | -            | 500~600HP | 992           | 954 | 710 | 985 | -   | 1030  | 1003 | 963 | 1007 | 968 | -   | -   | -  | -    | -    | 15 | 39 | -   | -   | 427 | 419        | 185 | 308 | 15  |     |

