# Distribution Boxes
## HRMD91 Series Explosion-proof Distribution Panels

- Explosion protection to
  - -CENELEC
  - -IEC
  - -NEC
- Can be used in
  - Zone 1 and Zone 2
  - Zone 21 and Zone 22
  - Class I, Zone 1 and Zone 2
  - Class I, Division 1, Groups B, C, D
- Flameproof enclosure (Ex d IIB+$H_2$), which can be used as feed distribution equipment in control and distribution system(such as distribution box, switch box of main circuit ,control box, terminal box or motor starting box etc.)
- Copper-free Aluminium Alloy enclosure, powder coated surface.
- Equipped with specialized hinge structure, which can prevent the flameproof joints from damage when opening and closing the panels, and greatly prolong the service life of box.
- The boxes can be combined and installed freely to save space and meet the requirements of various distribution systems.
- Special requirements on request.

### Catalogue number logic

HRMD 91 - □ / □ / □

- Rated current (A)
- Rated voltage (V)
- Specification code(I,II,IIB.....)
- Design No.
- Explosion-proof Distribution Panels

WAROM

**Zones1& 2; 21& 22**

## Technical data

**Explosion-proof Distribution Panels** **HRMD91-□/□/□**

| | |
|---|---|
| **Explosion protection** | |
| Global (IECEx) | IECEx CML 18.0157X |
| Gas and dust | Ex db IIB+$H_2$ T□[1] Gb<br>Ex db [ib] IIB+$H_2$ T□[1] Gb<br>Ex tb IIIC T□[1] Db IP66 |
| Europe (ATEX) | CML 18 ATEX 1338X |
| Gas and dust | Ⓔx II 2 G Ex db IIB+$H_2$ T□[1] Gb<br>Ⓔx II 2 G Ex db [ib] IIB+$H_2$ T□[1] Gb<br>Ⓔx II 2 D Ex tb IIIC T□[1] Db IP66<br>[1]See Selection table, P6/20-21 |
| **Certificates** | IECEx; ATEX; CUTR |
| **Conformity to standards** | EN 60079-0, EN 60079-1, EN 60079-11, EN 60079-31<br>IEC 60079-0, IEC 60079-1, IEC 60079-11, IEC 60079-31 |
| **Enclosure material** | Copper-free Aluminium Alloy enclosure, powder coated surface, window grey (RAL7040) |
| **Exposed fastener** | Stainless steel |
| **Built-in components** | Ammeters voltmeters, power meters, tachometers temperature control meters and other meters, control switches, disconnecting switches, Moulded Case Circuit Breakers (MCCB), Miniature Circuit Breakers(MCB), AC contactors, thermal relays, intermediate relays, time relays, control transformers, DC power supplies, current transformers, surge protectors, PLCs, fuses, soft starters, frequency converters, terminals, bus bars, resistors, light-operated switches, time controllers, optical fiber control boxes, magnet valves, analytical instruments, heaters, self-regulation trace heating cables, display screens, magnetic ballasts of HID light sources, electronic ballasts of fluorescent lamps, drivers of LED light sources, emergency devices of HID light sources, emergency devices of fluorescent lamps, emergency devices of LED light sources, safety barriers, integrated protectors of motors, lighting building controllers, lighting energy saving controllers, fire monitoring controllers, temperature controllers, humidity controllers, current monitors, voltage monitors, motor protection switches, dual power transfer switches, counters, timers, solid state relays, diode modules, industrial personal computers, UPS, batteries. |
| **Rated voltage** | Max. 1000V AC 50/60Hz<br>Max. 1500V DC |
| **Rated current** | Max. 1200A |
| **Degree of protection** | IP66 |
| **Internal & external earthing** | M6/M8, M8/M8 |
| **Ambient temperature** | -60˚C~+60˚C(+40˚C) |
| **Cable entries** | Standard M□×1.5 plug (the size of entry hole should be processed in accordance with actual requirements), NPT □ plug on request. |
| **Cable gland (optional)** | DQM-II (Ex d) or DQM-III (Ex d) is recommended. Please see P6/24~39. |
| **Entry direction** | Bottom |
| **Mounting** | Surface type (standard)<br>Pedestal type (optional) |

## See table for max. dissipated power

| Ta=60℃ | HRMD91 with metal cover without glass | | | | | |
|---|---|---|---|---|---|---|
| | T4(T130℃) | | T5(T95℃) | | T6(T80℃) | |
| Type | Power (W) | T Rise (K) | Power (W) | T Rise (K) | Power (W) | T Rise (K) |
| HRMD91-I | 200 | 70 | 80 | 33 | 38 | 17 |
| HRMD91-II | 200 | 65 | 80 | 31 | 40 | 17 |
| HRMD91-IIB | 240 | 67 | 100 | 31 | 50 | 17 |
| HRMD91-III | 290 | 66 | 130 | 32 | 60 | 17 |
| HRMD91-IIIB | 350 | 67 | 140 | 32 | 75 | 17 |
| HRMD91-IV | 420 | 62 | 190 | 33 | 100 | 17 |
| HRMD91-IVB | 500 | 65 | 210 | 34 | 100 | 17 |
| HRMD91-V | 520 | 60 | 240 | 31 | 125 | 17 |
| HRMD91-VB | 620 | 61 | 280 | 31 | 140 | 17 |
| HRMD91-VI | 660 | 61 | 300 | 31 | 150 | 17 |
| HRMD91-VIB | 660 | 53 | 330 | 31 | 180 | 17 |
| HRMD91-VII | 700 | 50 | 400 | 28 | 210 | 17 |
| HRMD91-VIIB | 700 | 49 | 400 | 27 | 220 | 17 |

| Ta=60℃ | HRMD91 with metal cover with glass | | | | | |
|---|---|---|---|---|---|---|
| | T4(T130℃) | | T5(T95℃) | | T6(T80℃) | |
| Type | Power (W) | T Rise (K) | Power (W) | T Rise (K) | Power (W) | T Rise (K) |
| HRMD91-I | 170 | 69 | 70 | 33 | 38 | 17 |
| HRMD91-II | 170 | 69 | 70 | 33 | 38 | 17 |
| HRMD91-IIB | 200 | 69 | 80 | 33 | 38 | 17 |
| HRMD91-III | 260 | 66 | 110 | 33 | 55 | 17 |
| HRMD91-IIIB | 320 | 67 | 120 | 31 | 65 | 17 |
| HRMD91-IV | 380 | 69 | 160 | 35 | 72 | 17 |
| HRMD91-IVB | 425 | 68 | 170 | 34 | 81 | 17 |
| HRMD91-V | 450 | 66 | 200 | 34 | 90 | 17 |
| HRMD91-VB | 540 | 66 | 220 | 34 | 100 | 17 |
| HRMD91-VI | 620 | 70 | 260 | 34 | 140 | 17 |
| HRMD91-VIB | 660 | 58 | 330 | 34 | 170 | 17 |
| HRMD91-VII | 700 | 56 | 400 | 32 | 185 | 17 |
| HRMD91-VIIB | 700 | 56 | 400 | 32 | 190 | 17 |

| Ta=40℃ | HRMD91 with full metal cover without glass | | | | | |
|---|---|---|---|---|---|---|
| | T4(T130℃) | | T5(T95℃) | | T6(T80℃) | |
| Type | Power (W) | T Rise (K) | Power (W) | T Rise (K) | Power (W) | T Rise (K) |
| HRMD91-I | 240 | 85 | 150 | 54 | 90 | 37 |
| HRMD91-II | 250 | 84 | 150 | 54 | 90 | 37 |
| HRMD91-IIB | 300 | 85 | 170 | 54 | 110 | 37 |
| HRMD91-III | 360 | 84 | 210 | 54 | 140 | 37 |
| HRMD91-IIIB | 430 | 83 | 230 | 54 | 190 | 37 |
| HRMD91-IV | 550 | 82 | 310 | 54 | 210 | 37 |
| HRMD91-IVB | 640 | 84 | 330 | 54 | 220 | 37 |
| HRMD91-V | 710 | 83 | 410 | 54 | 270 | 37 |
| HRMD91-VB | 830 | 82 | 480 | 54 | 300 | 37 |
| HRMD91-VI | 870 | 81 | 520 | 54 | 320 | 37 |
| HRMD91-VIB | 980 | 79 | 570 | 54 | 390 | 37 |
| HRMD91-VII | 1100 | 79 | 770 | 54 | 460 | 37 |
| HRMD91-VIIB | 1100 | 77 | 800 | 54 | 480 | 37 |

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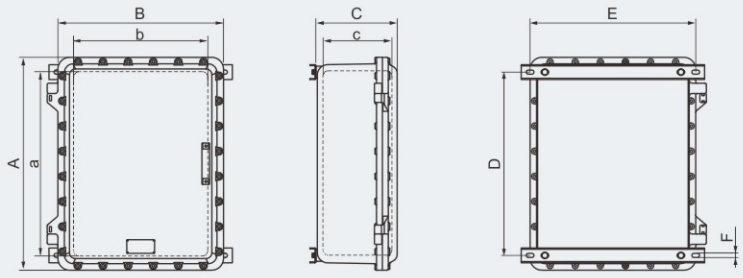
| Ta=40℃ | HRMD91 with full metal cover with glass | | | | | |
|---|---|---|---|---|---|---|
| | T4(T130℃) | | T5(T95℃) | | T6(T80℃) | |
| Type | Power (W) | T Rise (K) | Power (W) | T Rise (K) | Power (W) | T Rise (K) |
| HRMD91-I | 220 | 85 | 120 | 53 | 80 | 37 |
| HRMD91-II | 220 | 84 | 120 | 53 | 80 | 37 |
| HRMD91-IIB | 240 | 79 | 140 | 53 | 90 | 37 |
| HRMD91-III | 330 | 85 | 180 | 54 | 120 | 37 |
| HRMD91-IIIB | 400 | 84 | 200 | 53 | 140 | 37 |
| HRMD91-IV | 450 | 83 | 240 | 53 | 170 | 37 |
| HRMD91-IVB | 510 | 82 | 260 | 53 | 180 | 37 |
| HRMD91-V | 550 | 81 | 310 | 53 | 210 | 37 |
| HRMD91-VB | 610 | 80 | 350 | 53 | 240 | 37 |
| HRMD91-VI | 700 | 79 | 400 | 53 | 310 | 37 |
| HRMD91-VIB | 888 | 78 | 510 | 53 | 370 | 37 |
| HRMD91-VII | 970 | 78 | 650 | 53 | 450 | 37 |
| HRMD91-VIIB | 975 | 78 | 660 | 53 | 460 | 37 |

## Dimension drawings (all dimensions in mm) - subject to alteration




| Version | External dimension | | | Internal dimension | | | Mounting dimension | | | Weight of enclosure (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | a | b | c | D | E | F | |
| HRMD91-I | 250 | 200 | 170 | 180 | 142 | 131 | 180 | 200 | 10 | 6.70 |
| HRMD91-II | 300 | 200 | 170 | 230 | 142 | 131 | 230 | 200 | 10 | 8.00 |
| HRMD91-IIB | 350 | 200 | 170 | 280 | 142 | 131 | 280 | 200 | 10 | 9.50 |
| HRMD91-III | 350 | 300 | 200 | 280 | 240 | 159 | 280 | 300 | 12 | 14.50 |
| HRMD91-IIIB | 350 | 300 | 270 | 280 | 240 | 229 | 280 | 300 | 12 | 17.50 |
| HRMD91-IV | 450 | 350 | 210 | 365 | 278 | 163 | 365 | 350 | 12 | 23.00 |
| HRMD91-IVB | 450 | 350 | 280 | 365 | 278 | 233 | 365 | 350 | 12 | 27.50 |
| HRMD91-V | 560 | 400 | 210 | 475 | 328 | 155 | 475 | 400 | 14 | 34.50 |
| HRMD91-VB | 560 | 400 | 280 | 475 | 328 | 225 | 475 | 400 | 14 | 39.50 |
| HRMD91-VI | 634 | 434 | 265 | 522 | 360 | 205 | 522 | 430 | 14 | 46.00 |
| HRMD91-VIB | 634 | 434 | 335 | 522 | 360 | 275 | 522 | 430 | 14 | 52.00 |
| HRMD91-VII | 720 | 560 | 275 | 620 | 480 | 215 | 620 | 560 | 14 | 74.50 |
| HRMD91-VIIB | 720 | 560 | 345 | 620 | 480 | 285 | 620 | 560 | 14 | 83.00 |

Note: For cable entries:
1). Please specify the direction and size of each cable entry.
2). Cable gland is optional, DQM-II (Ex d) or DQM-III (Ex d) is recommended, please see P6/24~39.

# Distribution Boxes
# HRMD91 Series Explosion-proof Distribution Panels

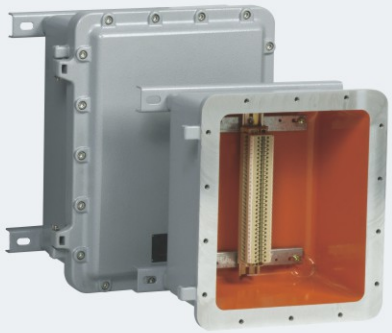
## HRMD91 Explosion-proof distribution panels for terminal box use

Suitable for terminal boxes of distribution system

Note: 1. HRMD91 terminal boxes have various different terminal arrangement methods.

2. It can be customized in accordance with user's requirements and conforms to the usage limits of conformity certificate. The Max. number of terminals and the Max. number of holes on side can meet the requirements of dissipated power and enclosure mechanical strength.

3. This table is only for reference.



## HRMD91 Explosion-proof distribution panels for distribution box use

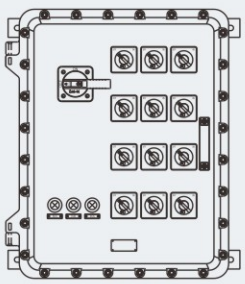
Suitable for power units of distribution system (or intelligent power distribution unit)

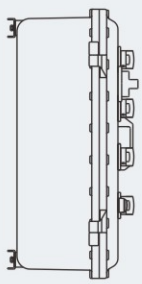
Note: 1. MCB (Miniature Circuit Breaker) or MCCB (Moulded Case Circuit Breaker), AC contactor, thermal overload relay, PLC programmer, soft starter, HA pushbuttons, HD indicators, HK control switches, gateway, switch, serial server, network relay, smart MCB (intelligent miniature circuit breaker), and BB8050 explosion-proof ammeters/voltmeters etc. in HRMD91 distribution boxes.

2. HRMD91 power unit can be used for distribution or on-off of circuit. It also can be used for controlling the start, stop, corotation and inversion of motor and provide comprehensive protection for motor. It can be equipped with two-site control or multi-site control.

3. The HRMD91 distribution box (intelligent type) supports connection to the Warom SCS Safety Engineering Intelligent Management and Control Platform via multiple communication methods, including RJ45, RS485, and optical fiber. It enables centralized local and remote control and monitoring of individual circuits. The HRMD91 distribution box (intelligent type) can continuously collect electrical parameters such as voltage, current, power, and energy from each circuit. It features overload, leakage, overvoltage, undervoltage protection, as well as fault alarm functions, effectively preventing electrical safety hazards. Additionally, it supports the Modbus protocol and custom commands, enabling connectivity to local area networks and the internet. Remote communication and management can be performed via an iPhone app, a PC-based web interface, or a cloud platform.

4. It can be customized in accordance with user's requirements and conforms to the usage limits of conformity certificate. The number of cover components and the Max. number of holes on side can meet the requirements of dissipated power and enclosure mechanical strength.





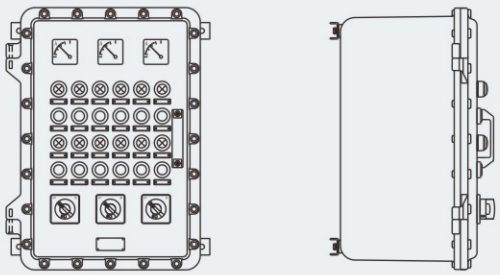
## HRMD91 Explosion-proof Distribution panels for control box use

Suitable for control unit of distribution system

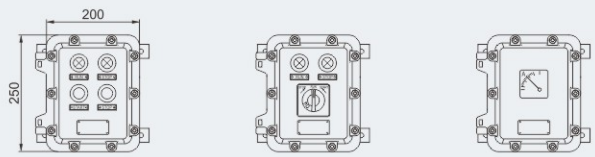
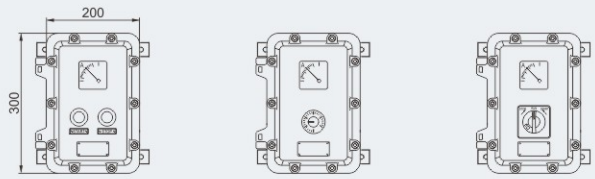
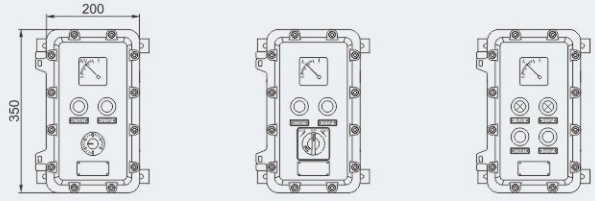
Note: 1. HA pushbuttons, HD indicators, HK control switches and BB8050 explosion-proof ammeters/voltmeters etc.in HRMD91 control boxes.

2. HRMD91 control box can be used for on-off operation of circuit. It also can realize the remote control or local control of the start, stop, corotation and inversion of motor. When it is equipped with ammeter, it also can monitor the running of motor and circuit status.

3. It can be customized in accordance with user's requirements and conforms to the usage limits of conformity certificate. The number of cover components and the Max. number of holes on side can meet the requirements of dissipated power and enclosure mechanical strength.



## Typical scheme diagram

| Enclosure type | Components arrangement |
|---|---|
| HRMD91-I |  |
| HRMD91-II |  |
| HRMD91-IIB |  |

# Distribution Boxes
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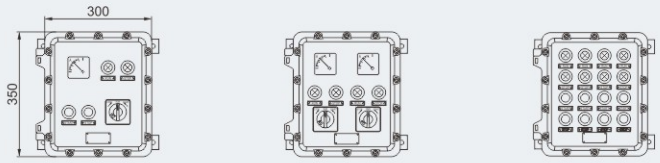
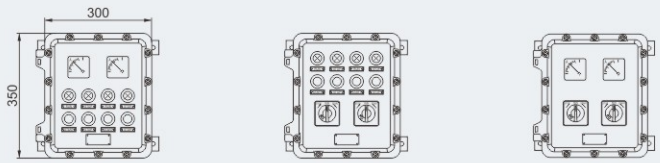
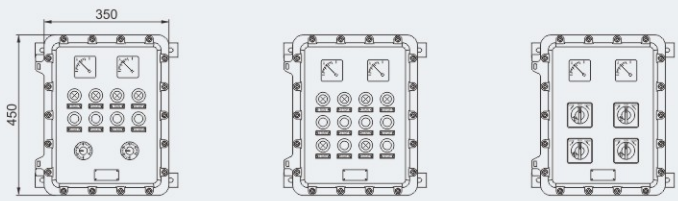
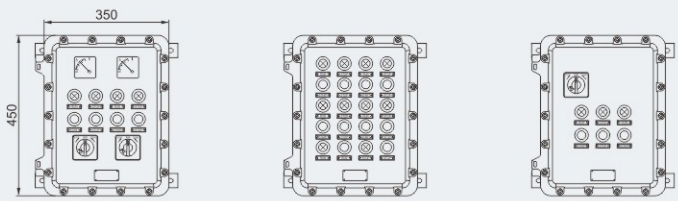
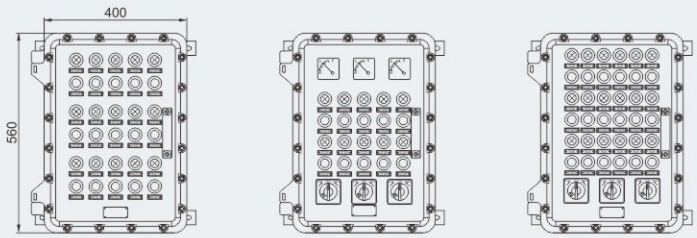
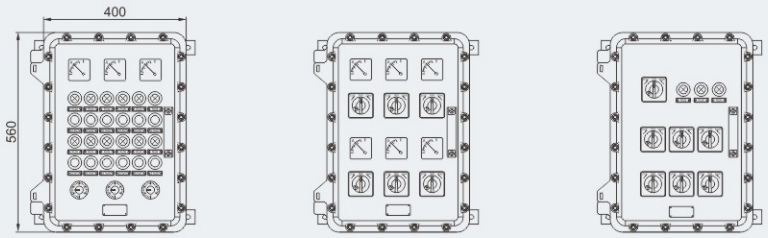
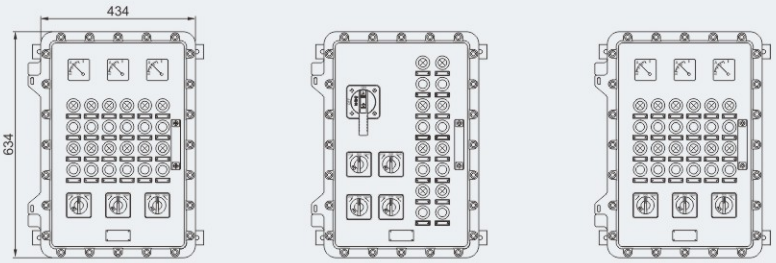
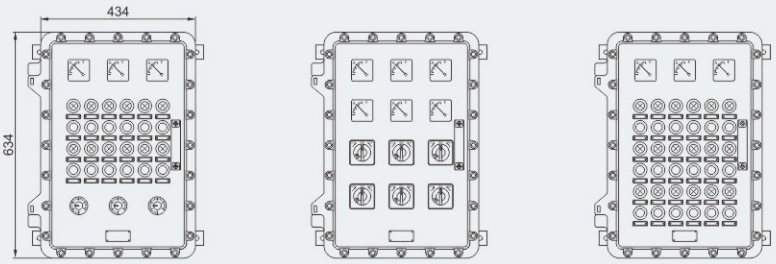
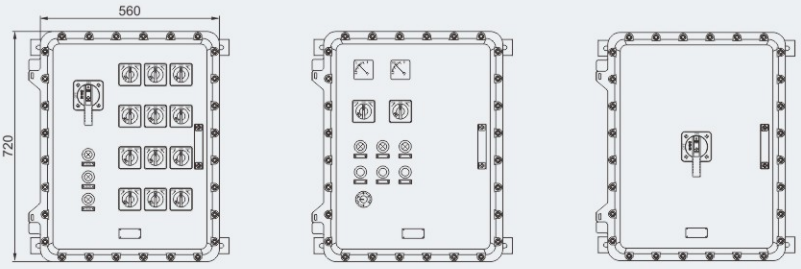
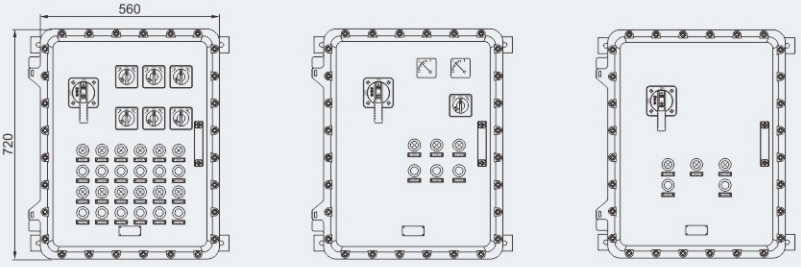
## Typical scheme diagram

| Enclosure type | Components arrangement |
|---|---|
| HRMD91-III |  |
| HRMD91-IIIB |  |
| HRMD91-IV |  |
| HRMD91-IVB |  |
| HRMD91-V |  |

## Typical scheme diagram

| Enclosure type | Components arrangement |
|---|---|
| HRMD91-VB |  |
| HRMD91-VI |  |
| HRMD91-VIB |  |
| HRMD91-VII |  |
| HRMD91-VIIB |  |