



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

| | | | |
|---------------------|---|-------------|--------------------------------------|
| Certificate No.: | IECEx PCET 22.0011X | Page 1 of 3 | Certificate history: |
| Status: | Current | Issue No: 0 | |
| Date of Issue: | 2022-10-25 | | |
| Applicant: | WAROM TECHNOLOGY INCORPORATED COMPANY No. 555, Baoqian Road, Jiading District, Shanghai 201808 China | | |
| Equipment: | Explosion-proof distribution panel model HRMD93-□/□/□/□/□ | | |
| Optional accessory: | | | |
| Type of Protection: | "d" "i" "t" | | |
| Marking: | Ex db IIB+H ₂ T6...T4 Gb; Ex db [ia Ga] IIB+H ₂ T6...T4 Gb; Ex db [ib Gb] IIB+H ₂ T6...T4 Gb Ex db IIB T6...T4 Gb; Ex db [ia Ga] IIB T6...T4 Gb; Ex db [ib Gb] IIB T6...T4 Gb Ex tb IIIC T80°C...T130°C Db | | |

Approved for issue on behalf of the IECEx
Certification Body:

Yin Hong

General manager

Position:

Signature:
(for printed version)

Date:
(for printed version)

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Tianjin Post Code 300131
China





IECEx Certificate of Conformity

Certificate No.: **IECEx PCET 22.0011X**

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Date of issue: 2022-10-25

Issue No: 0

Manufacturer: **WAROM TECHNOLOGY INCORPORATED COMPANY**
555 Baoqian Road, Jiading District, Shanghai, 201808
China

Manufacturing locations: **WAROM TECHNOLOGY INCORPORATED COMPANY**
555 Baoqian Road, Jiading District, Shanghai, 201808
China **WAROM TECHNOLOGY MENA FZCO**
Plot No. S31223
Jebel Ali Free Zone
Dubai P.O. Box 263667
United Arab Emirates

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[CN/PCET/ExTR22.0010/00](#)

Quality Assessment Report:

[CN/CQM/QAR07.0003/11](#)



IECEx Certificate of Conformity

Certificate No.: **IECEx PCET 22.0011X**

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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

HRMD93 series

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The flameproof joint cannot be repaired.
2. As there is a potential electrostatic charging hazard, the HRMD93 Explosion-proof distribution panel is only to be cleaned with a damp cloth.
3. The HRMD93 Explosion-proof distribution panel are intended to be mounted according to the mounting direction specified in the manual.
4. The content of the Ex component enclosure equipment may be placed in any arrangement, provided that an area of at least 40% of each cross-sectional area remains free to permit an unimpeded gas flow and, therefore, unrestricted development of an explosion. Separate relief areas may be aggregated provided that each area has a minimum dimension in any direction of 12.5mm.
5. The HK control switch, potentiometer, miniature circuit breaker (MCB) and moulded case circuit breaker (MCCB) have non-threaded cylindrical flamepath between the shaft and sheath, this joint is not repairable, when the flameproof gap exceeds 0.13mm due to wear during use, then it shall be replaced according to the manufacturer's requirements.
6. For the HD indicator mounted on the cover, risk of mechanical danger is low, reduce the risk of impact of foreign objects during installation.
7. For the cables selected see the instructions.
8. Only the suitably certified cable glands can be used for fixing cables. The unused holes must be closed by the suitably certified plugs.
9. When certified intrinsically safe associated equipment is installed, association with intrinsically safe equipment shall comply with the requirements of the standard IEC 60079-25/EN 60079-25.
10. Only high temperature-resistant cable can be used, and shall not be lower than 80°C(T6) or 95°C(T5) or 110°C(T4).
11. 30 minutes later the surface temperature of enclosed hot components reduces to below the assigned maximum surface temperature of the electrical equipment.
12. It cannot be used in areas affected by charge generation process, mechanical friction, separation process, electronic emission and pneumatic transport dust.
13. The form of the ambient temperature range is limited and Ex-mark

| Ex-mark | Ambient temperature range |
|---------|---------------------------|
|---------|---------------------------|

| | |
|------------------------------|---------------------|
| Ex db IIB T6...T4 Gb | |
| Ex tb IIIC T80°C...T130°C Db | -60°C≤Ta≤+40(+60°C) |

| | |
|------------------------------|---------------------|
| Ex db [ia Ga] IIB T6...T4 Gb | |
| Ex db [ib Gb] IIB T6...T4 Gb | -40°C≤Ta≤+40(+60°C) |
| Ex tb IIIC T80°C...T130°C Db | |

| | |
|-------------------------------------|---------------------|
| Ex db IIB+H ₂ T6...T4 Gb | |
| Ex tb IIIC T80°C...T130°C Db | -60°C≤Ta≤+40(+60°C) |

| | |
|---|---------------------|
| Ex db [ia Ga] IIB+H ₂ T6...T4 Gb | |
| Ex db [ib Gb] IIB+H ₂ T6...T4 Gb | -40°C≤Ta≤+40(+60°C) |
| Ex tb IIIC T80°C...T130°C Db | |

WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS.

CAUTION – USE FASTENERS WITH YIELD STRESS ≥ 450MPa.

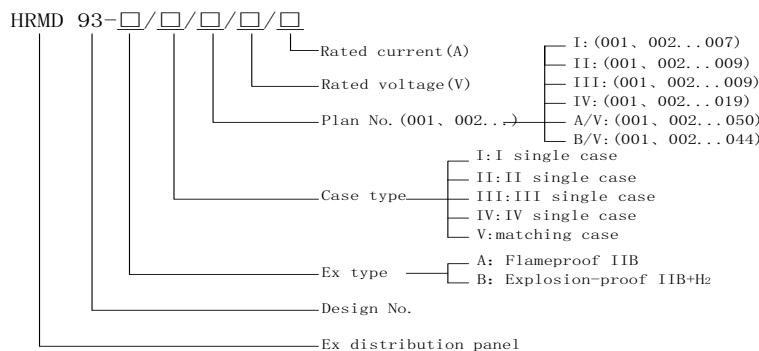
WARNING – AFTER DE-ENERGIZING DELAY 30 MINUTES BEFORE OPENING.

Annex:

[Annex to CoC IECEx PCET 22_1.pdf](#)



1. This certificate covers the following types:



2. Main parameters

| Rated voltage | Rated current |
|---|---------------|
| Low voltage: MAX.1000V AC 50/60Hz MAX.1500V DC | MAX.2000A |
| High voltage: 6kV,10kV,24kV,35kV AC 50/60Hz | |

| Type | Ex-mark | Ambient temperature | Ingress protection |
|----------|--|---------------------|--------------------|
| HRMD93-A | Ex db IIB T6...T4 Gb Ex tb IIIC T80°C...T130°C Db | -60°C≤Ta≤+40(+60°C) | IP66 |
| | Ex db [ia Ga] IIB T6...T4 Gb Ex db [ib Gb] IIB T6...T4 Gb Ex tb IIIC T80°C...T130°C Db | -40°C≤Ta≤+40(+60°C) | |
| HRMD93-B | Ex db IIB+H ₂ T6...T4 Gb Ex tb IIIC T80°C...T130°C Db | -60°C≤Ta≤+40(+60°C) | IP66 |
| | Ex db [ia Ga] IIB+H ₂ T6...T4 Gb Ex db [ib Gb] IIB+H ₂ T6...T4 Gb Ex tb IIIC T80°C...T130°C Db | -40°C≤Ta≤+40(+60°C) | |

3. Structure of production

HRMD93 series Explosion-proof distribution panel are divided into two categories: HRMD93-A and HRMD93-B, of which the explosion-proof mark of HRMD93-A is Ex db II B T6... T4 Gb, Ex db [ia Ga] IIB T6... T4 Gb, Ex db [ib Gb] IIB T6... T4 Gb, Ex tb IIIC T80°C...T130°C Db. HRMD93-B explosion-proof mark is Ex db IIB+H₂ T6... T4 Gb, Ex db [ia Ga] IIB+H₂ T6...T4 Gb, Ex db [ib Gb] IIB+H₂ T6...T4 Gb, Ex tb IIIC T80°C...T130°C Db. The box structure of HRMD93-B is divided into HRMD93-B/I, HRMD93-B/II, HRMD93-B/III, HRMD93-B/IV, HRMD93-B/V, in which HRMD93-B/I, HRMD93-B/II, HRMD93-B/III, and HRMD93-B/IV are



single boxes (except that HRMD93-B/I is composed of boxes and covers, HRMD93-B/II, HRMD93-B/III, and HRMD93-B/IV are composed of boxes, covers, and bottom covers, in which boxes and covers form a plane interface, and boxes and bottom covers form a bonding form), HRMD93-B/V is the splicing box, which is composed of different numbers of HRMD93-B/I, HRMD93-B/II, HRMD93-B/III, and HRMD93-B/IV single boxes (the splicing part of the box is a non-open cavity, and there are 16 splicing forms in total, see the attachment page of IEC60079-1 for details). All boxes are spliced with wire holes, which are composed of wire sleeves and sealing rings. The specification of wire sleeves is M63×1.5. All are treated by pouring. The box structure of HRMD93-A is only HRMD93-A/V, and it is a combination of different numbers of HRMD93-B/I, HRMD93-B/II, HRMD93-B/III, and HRMD93-B/IV single boxes (only one box splice is a through cavity, and the rest are non through cavities, and there are two splicing forms, see the attachment of IEC60079-1 for details). The splicing surface between all boxes is a plane interface, and the fastener of the splicing surface is a threaded interface. Numbers and size of cable entry openings on body, for details cable entry form.

The cover elements of this series of products include HA button, HD indicator light, operating handle (HK control switch) of circuit breaker and universal switch, glass window and potentiometer. The box is equipped with MCCB, MCB, AC contactor, thermal relay, intermediate relay, fuse, control transformer, PLC, soft starter, frequency converter, wiring terminal, ammeter, voltmeter and certified intrinsically safe related equipment (see the instructions for specific built-in elements). Among them, HA button, HD indicator light and HK control switch are certified Ex components, which are manufactured by Warom Company.

The total power consumption of the components assembled inside the box shall not exceed the value in the power dissipation meter.

For the wall thickness and size of fasteners see part IEC 60079-0 the measurement section.

For the volume of cavity and type of box see part IEC 60079-1 the measurement section.

About flanged joints and threaded joints of HRMD93 see measurement section of IEC60079-1.

4. Form for numbers and size of cable entry openings hole on body

| Type of HRMD93 | Numbers of A/B face | Numbers of C/D face | Minimum hole distance range mm | Thread specification |
|----------------|---------------------|---------------------|--------------------------------|---|
| I | 5 | 6 | 60~70 | NPT 1/2 "、 M20×1.5、 NPT 3/4 "、 M25×1.5 |
| | 2 | 2 | 80~90 | NPT 1 "、 M32×1.5、 NPT 1 1/4 "、 M40×1.5 |
| | 1 | 1 | N/A | NPT 1 1/2 "、 M50×1.5 |
| II | 6 | 10 | 60~70 | NPT 1/2 "、 M20×1.5、 NPT 3/4 "、 M25×1.5 |

Annex to:

IECEx PCET 22.0011X

Applicant:

WAROM TECHNOLOGY INCORPORATED COMPANY

Equipment:

Explosion-proof distribution panel



| | | | | |
|-----|----|----|---------|---|
| | 2 | 4 | 80~90 | NPT 1"、M32×1.5、 NPT 1 ¹ / ₄ "、M40×1.5 |
| | 1 | 1 | N/A | NPT 1 ¹ / ₂ "、M50×1.5、 NPT 2"、M63×1.5 |
| III | 10 | 12 | 60~70 | NPT 1 ¹ / ₂ "、M20×1.5、 NPT 3 ¹ / ₄ "、M25×1.5 |
| | 4 | 6 | 80~90 | NPT 1"、M32×1.5、 NPT 1 ¹ / ₄ "、M40×1.5 |
| | 2 | 2 | 110~120 | NPT 1 ¹ / ₂ "、M50×1.5、 NPT 2"、M63×1.5 |
| | 1 | 1 | N/A | NPT 2 ¹ / ₂ "、M75×1.5 |
| | 16 | 20 | 60~70 | NPT 1 ¹ / ₂ "、M20×1.5、 NPT 3 ¹ / ₄ "、M25×1.5 |
| IV | 8 | 8 | 80~90 | NPT 1"、M32×1.5、 NPT 1 ¹ / ₄ "、M40×1.5 |
| | 4 | 4 | 110~120 | NPT 1 ¹ / ₂ "、M50×1.5、 NPT 2"、M63×1.5 |
| | 1 | 1 | N/A | NPT 2 ¹ / ₂ "、M75×1.5、 NPT 3"、M90×1.5、 NPT 4"、M115×1.5 |

5. Form of maximum power dissipation and temperature rise

| Ta=60°C | HRMD93 with full metal cover without glass window | | | | | |
|--------------|---|----------------------|-----------------------|----------------------|-----------------------|----------------------|
| | T4/T130°C | | T5/T95°C | | T6/T80°C | |
| Type | Power consumption (W) | Temperature rise (K) | Power consumption (W) | Temperature rise (K) | Power consumption (W) | Temperature rise (K) |
| HRMD93-B/I | 178 | 50 | 106 | 35 | 52 | 18 |
| HRMD93-B/II | 300 | 50 | 132 | 35 | 63 | 18 |
| HRMD93-B/III | 425 | 50 | 250 | 35 | 130 | 18 |
| HRMD93-B/IV | 700 | 50 | 410 | 35 | 215 | 18 |

Annex to:

IECEx PCET 22.0011X

Applicant:

WAROM TECHNOLOGY INCORPORATED COMPANY

Equipment:

Explosion-proof distribution panel



| Ta=60°C | HRMD93 with full metal cover with glass window | | | | | |
|--------------|--|----------------------|-----------------------|----------------------|-----------------------|----------------------|
| | T4/T130°C | | T5/T95°C | | T6/T80°C | |
| Type | Power consumption (W) | Temperature rise (K) | Power consumption (W) | Temperature rise (K) | Power consumption (W) | Temperature rise (K) |
| HRMD93-B/I | 150 | 50 | 85 | 35 | 38 | 18 |
| HRMD93-B/II | 185 | 50 | 112 | 35 | 58 | 18 |
| HRMD93-B/III | 325 | 50 | 210 | 35 | 95 | 18 |
| HRMD93-B/IV | 700 | 50 | 410 | 35 | 180 | 18 |

| Ta=40°C | HRMD93 with full metal cover without glass window | | | | | |
|--------------|---|----------------------|-----------------------|----------------------|-----------------------|----------------------|
| | T4/T130°C | | T5/T95°C | | T6/T80°C | |
| Type | Power consumption (W) | Temperature rise (K) | Power consumption (W) | Temperature rise (K) | Power consumption (W) | Temperature rise (K) |
| HRMD93-B/I | 255 | 70 | 178 | 55 | 116 | 38 |
| HRMD93-B/II | 375 | 70 | 215 | 55 | 150 | 38 |
| HRMD93-B/III | 575 | 70 | 425 | 55 | 276 | 38 |
| HRMD93-B/IV | 975 | 70 | 700 | 55 | 480 | 38 |

| Ta=40°C | HRMD93 with full metal cover with glass window | | | | | |
|--------------|--|----------------------|-----------------------|----------------------|-----------------------|----------------------|
| | T4/T130°C | | T5/T95°C | | T6/T80°C | |
| Type | Power consumption (W) | Temperature rise (K) | Power consumption (W) | Temperature rise (K) | Power consumption (W) | Temperature rise (K) |
| HRMD93-B/I | 255 | 70 | 150 | 55 | 96 | 38 |
| HRMD93-B/II | 345 | 70 | 185 | 55 | 130 | 38 |
| HRMD93-B/III | 575 | 70 | 325 | 55 | 215 | 38 |
| HRMD93-B/IV | 975 | 70 | 660 | 55 | 460 | 38 |



| Power consumption at Ta=60°C | | | | |
|------------------------------|------------------------------|--|---|---------------------------------------|
| Type | Type of combination | T4/T130°C | T5/T95°C | T6/T80°C |
| *HRMD93-A/V/045 | type III and IV | III:310W IV:460W | III:155W IV:310W | III:80W IV:160W |
| *HRMD93-A/V/046 | type II and III and IV | II:146W III:280W IV:383W | II:115W III:155W IV:310W | II:50W III:80W IV:160W |
| *HRMD93-A/V/047 | type I and II and III and IV | I:108W II:146W III:280W IV:383W | I:55W II:110W III:150W IV:305W | I:30W II:50W III:80W IV:160W |
| *HRMD93-A/V/048 | type I and III and IV | I:103W III:275W IV:378W | I:60W III:155W IV:310W | I:30W III:80W IV:160W |

| Power consumption at Ta=40°C | | | | |
|------------------------------|------------------------------|--|--|---|
| Type | Type of combination | T4/T130°C | T5/T95°C | T6/T80°C |
| *HRMD93-A/V/045 | type III and IV | III:370W IV:787W | III:310W IV:460W | III:155W IV:310W |
| *HRMD93-A/V/046 | type II and III and IV | II:245W III:393W IV:787W | II:146W III:280W IV:383W | II:115W III:155W IV:310W |
| *HRMD93-A/V/047 | type I and II and III and IV | I:150W II:220W III:320W IV:700W | I:108W II:146W III:280W IV:383W | I:55W II:110W III:150W IV:305W |
| *HRMD93-A/V/048 | type I and III and IV | I:150W III:385W IV:787W | I:103W III:275W IV:378W | I:60W III:155W IV:310W |



| Power consumption at Ta=60°C | | | | |
|------------------------------|---------------------|---------------------|---------------------|--------------------|
| Type | Type of combination | T4/T130°C | T5/T95°C | T6/T80°C |
| *HRMD93-B/V/025 | type I and II | I:116W II:153W | I:60W II:115W | I:30W II:50W |
| *HRMD93-B/V/020 | type II and IV | II:146W IV:460W | II:115W IV:310W | II:50W IV:160W |
| *HRMD93-B/V/019 | type III and IV | III:310W IV:460W | III:155W IV:310W | III:80W IV:160W |

| Power consumption at Ta=40°C | | | | |
|------------------------------|---------------------|---------------------|---------------------|---------------------|
| Type | Type of combination | T4/T130°C | T5/T95°C | T6/T80°C |
| *HRMD93-B/V/025 | type I and II | I:150W II:225W | I:116W II:153W | I:60W II:115W |
| *HRMD93-B/V/020 | type II and IV | II:245W IV:787W | II:146W IV:460W | II:115W IV:310W |
| *HRMD93-B/V/019 | type III and IV | III:385W IV:787W | III:310W IV:460W | III:155W IV:310W |

Note: * reference represents a representative type, which can cover the type of HRMD93-B/V and HRMD93-A/V.

6. Form certified Ex components

| No. | Equipment | Ex-mark | Certificate No. |
|-----|---|---------------------------------------|--------------------|
| 1 | HA Flameproof Pushbutton | Ex db IIC Gb Ex tb IIIC Db | IECEx CML 17.0161U |
| 2 | Indicator HD-** | Ex db IIC Gb Ex tb IIIC Db IP66 | IECEx CQM 17.0008U |
| 3 | HK Control Switch | Ex db IIC Gb Ex tb IIIC Db | IECEx CML 17.0166U |
| 4 | Type KFD2-Ex*.LK Transformer Isolated Driver | [Ex ia Ga]IIC | IECEx BAS 04.0014X |
| 5 | 9121-IS FISCO Power Supply – IIC/ 9122-IS FISCO Power Supply - IIB | [Ex ib Gb]IIC [Ex ib Gb]IIB | IECEx BAS 04.0031X |