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 CML 18.0157X**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 1	Issue 0 (2018-10-31)
Date of Issue:	2021-10-23		
Applicant:	**Warom Technology Incorporated Company** No. 555 Baoqian Road, Jiading District, Shanghai, 201808 **China**		
Equipment:	**Explosion-proof Distribution Panel HRMD91-□□□**		
Optional accessory:			
Type of Protection:	**Flameproof "db", Intrinsic Safety "[ib]", Dust Ignition "tb"**		
Marking:	Ex db IIB+H2 T6/T5/T4* Gb Ex db [ib] IIB+H2 T6/T5/T4* Gb Ex tb IIIC T80°C/T95°C/T130°C* Db IP66 -60°C ≤ Ta ≤ +60°C (+40°C)*		

* The temperature class, assigned maximum surface temperature and maximum ambient shall be marked in accordance with the Description on this certificate. See Conditions of Manufacture in the Annex.

Approved for issue on behalf of the IECEx Certification Body: **R C Marshall**

Position: **Operations Manager**

Signature: (for printed version)

Date: 2021-10-23

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
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Certificate issued by:

Eurofins E&E CML Limited
Unit 1, Newport Business Park
New Port Road
Ellesmere Port, CH65 4LZ
United Kingdom

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Manufacturer: **Warom Technology Incorporated Company**
No. 555 Baoqian Road, Jiading District, Shanghai, 201808
China

Additional manufacturing locations: **Warom Technology Mena Fzco**
Plot No.S31223, Jebel Ali Free Zone
Dubai 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 Reports:

GB/CML/ExTR18.0226/00 GB/CML/ExTR18.0226/01 GB/CML/ExTR21.0257/00

Quality Assessment Report:

CN/CQM/QAR07.0003/10

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The Explosion-proof Distribution Panel HRMD91-□□□ comprises a component certified main enclosure and cover. The cover may be fitted with tempered glass windows, operating mechanisms for switches and breakers, potentiometers, indicators and pushbuttons.

Refer to Annex for full description and conditions of manufacture.

SPECIFIC CONDITIONS OF USE: YES as shown below:
Refer to Annex for specific conditions of use.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Issue 1

This issue introduced the following change:

1. Addition of the following manufacturing location:
   WAROM Technology Mena Fzco
   Plot No. S31223, Jebel Ali Free Zone Dubai 263667
   United Arab Emirates

Annex:

IECEx CML 18.0157X Iss. 1 Certificate Annex.pdf

Annex to:	**IECEx CML 18.0157X Issue 1**
Applicant:	**Warom Technology Incorporated Company**
Apparatus:	**Explosion-proof Distribution Panel HRMD91-□□□**

Product Description

The Explosion-proof Distribution Panel HRMD91-□□□ comprises a component certified main enclosure and cover. The cover may be fitted with tempered glass windows, operating mechanisms for switches and breakers, potentiometers, indicators and pushbuttons.

The enclosures can contain electrical equipment in the form of suitably certified intrinsically safe associated apparatus, 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.

A VMQ O-ring is included for ingress protection purposes. The number of components incorporated into the equipment depends on the size of the panel and the space required for each component. The temperature class depends on the panel size and maximum power dissipation as shown in the tables below.

Rated voltage: Max. 1000 V AC 50/60 Hz
Max. 1500 V DC
Rated current: Max. 1200 A

The equipment incorporates the following separately certified parts:

BXT-□-W Empty Enclosure – IECEx CQM 14.0011U and LCIE 11ATEX3012U
HK Control Switch – IECEx CML 17.0166U and CML 17ATEX1036U
HD Indicator – IECEx CQM 17.0008U and EPT 17ATEX2649U
HA Flameproof Pushbutton – IECEx CML 17.0161U and CML 17ATEX1289U

The BXT-□-W Empty Enclosures are modified to include small or big glass windows and threaded entries for the installation of components.

Types BXT-V-W, BXT-VB-W, BXT-VI-W, BXT-VIB-W, BXT-VII-W, BXT-VIIB-W include M75 (2 ½" NPT), M90 (3" NPT), M115 (4" NPT) cable entries on the side wall.

Types BXT-VII-W and BXT-VIIB-W have the reinforcing ribs of the covers removed.

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Ta = 60°C	HRMD91 with metal cover without glass					
	T4 (T130°C)		T5 (T95°C)		T6 (T80°C)	
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°C	HRMD91 with metal cover with glass					
	T4 (T130°C)		T5 (T95°C)		T6 (T80°C)	
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°C	HRMD91 with full metal cover without glass					
	T4 (T130°C)		T5 (T95°C)		T6 (T80°C)	
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

Ta = 40°C	HRMD91 with full metal cover with glass					
	T4 (T130°C)		T5 (T95°C)		T6 (T80°C)	
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

Conditions of Manufacture

The following are conditions of manufacture:

i. The contents of the enclosure may be placed in any arrangement, provided that an area of at least 40% of each cross-section remains free to permit an unimpeded gas flow and, therefore, unrestricted development of an explosion. Separate relief areas may be filled, provided that each area has a minimum distance to the enclosure wall in any direction of 12.5 mm.

ii. The equipment shall be subjected to a static overpressure test in accordance with EN/IEC 60079-1 Clause 16.1. The test shall be carried out for a duration of 10 to 12 seconds and at the following pressures:

Type	**Pressure**
HRMD91-I HRMD91-II HRMD91-IIB	10.2 bar (1020 kPa)
HRMD91-III HRMD91-IIIB	11.1 bar (1100 kPa)
HRMD91-IV HRMD91-IVB	13.2 bar (1320 kPa)
HRMD91-V HRMD91-VB	10.6 bar (1060 kPa)
HRMD91-VI HRMD91-VIB	10.9 bar (1090 kPa)
HRMD91-VII HRMD91-VIIB	13.1 bar (1310 kPa)

There shall be no permanent deformation or damage to the enclosure, and no leakage via the enclosure walls.

iii. The marked maximum ambient temperature, temperature class and assigned maximum surface temperature are dependent on the model and power rating and shall be marked in accordance with the description shown on this certificate.

iv. When a battery is fitted, it shall be appropriately certified according to IEC 60079-1 Annex E as a battery pack or part of certified equipment containing batteries according to IEC 60079-1 Annex E. Additionally, the overall equipment shall comply with the conditions shown on the certificate.

v. The contents of the enclosure shall be assessed for suitability when used as part of this equipment. The manufacturer shall ensure that any conditions are met, and temperature limitations are not exceeded.

Specific Conditions of Use/Special Conditions for Safe Use

The following are conditions of certification:

i. The flameproof joint dimensions differ from the values shown in EN/IEC 60079-1 Table 2. Therefore, the flameproof joints shall not be repaired or modified.
ii. There is a potential electrostatic charging hazard, the equipment shall only be cleaned with a damp cloth.
iii. The equipment shall only be mounted according to the mounting direction/orientation specified in the manual.
iv. The HK control switch, potentiometer, miniature circuit breaker (MCB) and moulded case circuit breaker (MCCB) have non-threaded cylindrical flamepaths between the shaft and sheath; this joint is not repairable. If the flameproof gap exceeds 0.13 mm due to wear during use, then it shall be replaced according to the manufacturer's requirements.
v. The HD indicator shall be situated so as to reduce mechanical impact danger. This shall be considered during installation.
vi. Only cables suitable for 130°C for T4, 95°C for T5, 80°C for T6 shall be used.
vii. Only suitably certified cable glands shall be used for fixing cables. The unused holes shall be closed by suitably certified plugs.