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 CSA 23.0034X**

Certificate history:

Status: **Current**

Issue No: 0

Date of Issue: 2024-01-09

Applicant: **J&R Technology Limited**
6A, Building A1
XingYi Industrial Park
Fuyong Town
Bao'an District
Shenzhen Guangdong 518103
China

Equipment: **Explosion-proof Telephone/JREX106 Series**

Optional accessory:

Type of Protection: **Increased Safety, Intrinsically Safe, Encapsulation and Dust Protection by Enclosure**

Marking: Ex eb ib [ib Gb] mb IIC T6/T5 Gb

Ex ib [ib Db] tb IIIC T80°C/T95°C Db

Ambient Temperature:

T6/T80°C: -40°C to +40°C

T5/T95°C: -40°C to +55°C

Approved for issue on behalf of the IECEx Certification Body: **Dave Magee**

Position: **Senior Director of Operations, Toronto**

Signature:
(for printed version)

Date:
(for printed version)

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:

CSA Group
178 Rexdale Boulevard
Toronto, Ontario M9W IR3
Canada

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Manufacturer: **J&R Technology Limited**
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Manufacturing locations: **J&R Technology Limited**
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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 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-18:2017 Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

IEC 60079-31:2022 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Edition:3.0

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

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:

CA/CSA/ExTR24.0001/00

Quality Assessment Report:

GB/CSAE/QAR23.0016/00

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

JREX106 series Explosion-proof Telephone is a rugged weatherproof telephone for use in explosive atmospheres. The handset is supplied with a stainless-steel cord and the optional keypad has up to 20 buttons.

The telephone consists of a single compartment shell which is manufactured from plastic polyester with a stainless-steel keyboard panel; held together by four stainless-steel screws. The optional glass window is secured within the enclosure by the compression of the gasket/fixed frame to the upper shell. Internally, the encapsulated main board and safety barrier board under Ex 'mb' protection type provides intrinsically safe output to the KEYBOARD, HANDSET, HOOK, HANDFREE SPK and MIC, LCD. The external terminations are made via component certified cable glands at Ex 'eb' approved terminal blocks. One waterproof ring is provided on the upper shell to provide ingress protection.

The telephone has been tested in accordance with the test of enclosure section of IEC 60079-0:2017 and meets the requirements of IP66. The equipment utilises two cable entries in the rear of the bottom shell for the use of suitably approved Ex eb IIC Gb (for zone 1) and Ex tb IIIC Db (for zone 21) cable entry devices or blanking elements.

The JREX106-SIP telephone is designed to be powered over the incoming Ethernet connections from a supply conforming to IEEE802.3:2002 or via a DC 12V power supply connected to the power terminal blocks when external loudspeaker and light used.

Input entity parameter for JREX106-SIP telephone:

Ethernet input: Um = DC 57V

Power supply input: Um = 250V rms

The JREX106-AL telephone is designed to be used with PABX/PSTN network or via a DC 12V power supply connected to the terminal blocks when external loudspeaker and light used.

Input entity parameter for JREX106-AL telephone:

PABX/PSTN network input: Um: AC 90V / DC 65V

Power supply input: Um = 250V rms.

Refer to the ANNEXE for additional information

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charges under certain extreme conditions. The user should ensure that the equipment is not installed in a location where it may be subjected to external conditions (such as high-pressure steam) which might cause a build-up of electrostatic charges on non-conducting surfaces. Additionally, cleaning of the equipment should be done with a damp cloth.
2. All cable entry holes shall be fitted with either a certified cable gland or a certified stopping plug that is suitable for the application.
3. The external surface of HANDSET is coated with a conductive coating. Attention shall be paid to avoid the damage of the coating during storage, transportation and use. Additionally, the coating shall be inspected before use, see user instruction.
4. The telephone contains shunt Zener diode interfaces, which requires connection to a suitable earth reliably before use in accordance with EN/IEC 60079-14.
5. The terminal blocks for external 12VDC power supply, loudspeaker and light shall only be fitted with wires that have cross sectional as below and the tighten torque of screws of terminal block is 0.5Nm:
   Solid [mm^2] (AWG): 0.2 - 4 (24 - 12)
   Flexible [mm^2] (AWG): 0.2 - 2.5 (24 - 14)

Annex:

IECEx CSA 23.0034X Annexe Issue 0.pdf

Annexe to: **IECEx CSA 23.0034X Issue 0**

Applicant: **J&R Technology Limited**

Apparatus: **Explosion-proof Telephone / JREX106 Series**

Equipment (Continued)

The following table details the telephone and its associated ambient temperature ranges, temperature classes and surface temperature for dust.

Ambient temperature	Temperature class	Maximum surface temperature
-40°C to +55°C	T5	T95°C
-40°C to +40°C	T6	T80°C

A certified intrinsically safe HEADSET may be connected to the Explosion-proof Telephone fitted with interior terminal blocks and the entity parameters of the terminal blocks are:

JREX106-SIP telephone entity parameters for external HEADSET:

Uo = 5.202V, Io = 0.38A, Po = 0.49W, Co = 71µF (IIC) / 1000µF (IIIC), Lo = 0.24mH (IIC) / 0.98mH (IIIC)

JREX106-AL telephone entity parameters for external HEADSET:

Uo = 5.202V, Io = 0.43A, Po = 0.56W, Co = 71µF (IIC) / 1000µF (IIIC), Lo = 0.19mH (IIC) / 0.76mH (IIIC)

The Model Designation is defined as follows: JREX106-**aa-b-cc**

JREX106	Explosion-proof telephone
aa = Keyboard function	FK: with keyboard CB: without keyboard
b = Display function	L: with LCD display Empty: without LCD display
cc = Version	AL: Analog telephone SIP: VOIP telephone

Conditions of Manufacture

1. The Explosion-proof telephone incorporates component certified terminal blocks, certified under IECEx KEM 07.0019U and KEMA 01ATEX2130U. It is therefore the responsibility of the manufacturer to continually monitor the status of the certifications associated with this device, and they shall inform CSA Group of any modifications to the device that may impinge upon the explosion safety design of their products.
2. The encapsulated parts of the apparatus shall be subjected to a visual inspection. No visible damage of the compound shall be evident, such as cracks, exposure of the encapsulated parts, flaking, impermissible shrinkage, discoloration, swelling decomposition or softening, as required by IEC 60079-18:2017 / EN 60079-18:2015+A1:2017 clause 9.1.
3. Each manufactured equipment shall be subjected to a dielectric strength test at 1500 Vac for at least 1s without dielectric breakdown occurring between input terminal blocks and the surface of the compound or the non-metallic enclosure in accordance with IEC 60079-18:2017 / EN 60079-18:2015+A1:2017 Clause 9.2. Alternatively, the test may be carried out at 1800 Vac for at least 100ms.
4. Each manufactured equipment shall be subjected to a dielectric strength test at 1500 Vac at least 60 s without dielectric breakdown occurring between circuit and enclosure according to IEC 60079-7:2017 / EN IEC 60079-7:2015+A1:2018, Clause 6.1. Alternatively, the test may be carried out at 1800Vac for at least 100ms.

CSA Group
178 Rexdale Boulevard,
Toronto, Ontario M9W 1R3