JREX106 Explosion Proof VoIP Telephone

Installation and User Guide

J&R Technology Ltd

Content

Foreword

The JREX106 series explosion proof telephones are designed to provide safe, reliable communication in hazardous areas. The housing is made of impact and shock-resistant GRP and even resistant to acids, alkali and lubricants. Its robust design represents a perfect "packaging" for the latest requirements for heavy duty telephones combined with proven reliability for critical mission communications and high safety applications.

Standard SIP JREX106 series telephones provide basic telephone functions and can be connected to CAT5 or better cable. The telephone device features a display with integrated heating for ultra low temperature environments. The unique robust handset is manufactured from moulded bulk molding compound and designed specifically to withstand arduous use in all environments, armored cord to provide additional resistance to vandalism or heavy industrial use.

This explosion proof telephone is designed to provide ultimate user comfort on the basis of industrial standards and decades of market leading expertise and know-how. They are developed for operation in the petrochemical industrial, oil exploration, oil&gas plants, coal, military, chemical and petrochemical plants, refineries, mines, oil refining, offshore and land based rigs, power generation facilities, wastewater treatment facilities, grain storage sites and other hazardous industrial environment.

1. General Operating Instructions

1. Both the explosion proof telephone FK (full keypad) version and CB (hotline, without keypad) version are designed for independently accessible to VoIP phone system.
2. The handset is fitted with a stray-field coil for connecting hearing-aids. People who use hearing-aids which have an inductive receiver can receive the earphone signal directly.
3. If you take longer than 2 minutes before you begin making a choice, the power supply of the exchange may be switched off. If that occurs, you will no longer hear a dialing tone. In that case, please replace the handset and wait 2 seconds before picking it up again.
4. Forgetting the PIN is the equivalent of losing a key. If you forget the PIN, please contact our technical support.

2. Product Features

- ★ Standard Explosion Proof Analogue phone
- ★ Power supply: Telephone line
- ★ With LCD display
- ★ Can be programmed remotely by tone phone or locally via keypad
- ★ Robust construction, made of GRP (Glass fibre-reinforced polyester) material
- ★ Weatherproof and corrosion resistant handset
- ★ Stainless steel armoured handset cord
- ★ Compatible with all the standard PBX servers
- ★ Protection grade IP67, IK10
- ★ Large urehane coated watertight keypad

- ★ Autodial, memory, mute and menu configuration keys
- ★ Programmable auto hang-up timer
- ★ Hearing-aid compatible (HAC) receiver
- ★ Optional Hotline (without keypad) version
- ★ Tamper resistant fixings
- ★ Magnetic reed hook switch, No visible parts
- ★ Fast-fit terminal connection
- ★ Various mounting option, Simple installation
- ★ Non-volatile memory
- ★ ATEX, CE, FCC, IP67, RoHS, IK10 certification

3. Technical Data

| Connection data	
Power supply	PoE, or 12V / 24V DC
Supply current	100 mADC to 200 mADC
VoIP Signaling Protocols	SIP: RFC 3261, RFC 2327 (SDP)
Connectors interfaces	2 x RJ-45 ports (10/100BaseT Ethernet) for WAN and LAN
Data Protocols	
Media Processing	IPv4, TCP, UDP, ICMP, ARP, DNS and DNS SRV for SIP Signaling
	SIP over TLS (SIPS)
	802.1p/Q for Traffic Priority and QoS
	VLAN Discovery Mechanism (CDP, LLDP)
	ToS (Type of Service) field, indicating desired QoS DHCP Client
	NTP Client
	Voice Coders: G.711, G.723.1, G.729A/B, G.722.
	Adaptive Jitter Buffer 300 msec
	Voice Activity Detection
	Comfort Noise Generation
	Packet Lost Concealment
	RTP/RTCP Packetization (RFC 3550, RFC 3551), SRTP (RFC 3711)
	DTMF Relay (RFC 2833)
Conformity	
Protection type:	IP67 as per EN60529
Degree of protection against external mechanical impacts	IK10 as per IEC62262
Operating temperature	-40°C to +70°C
Storage temperature	-40°C to +80°C
Relative humidity	10%~95%
Marking	II 2 G Ex e [ib] mb IIC T6 Gb II 2 D Ex tb [ib] IIIC T85°C Db
IECEx Certificate of Conformity	
Marking	Ex e [ib] mb IIC T6 Gb / Ex tb [ib] IIIC T85°C Db
Telephone (user menu)	Chinese, English
Housing	
Material	High Impact Glass fibre-reinforced polyester
Height x width x depth	approx. 204mm x 334 mm x 126 mm
Weight	approx. 8kgs
Keyboard	Stainless steel keyboard with 20 keys.
Position of operation	Mounted upright on the wall. The device must be mounted on a plane surface only.
Protection Class I	M20 x 1.5 threaded hole or threaded 1/2" NPT adapter for cable entry assembly.
Protection Class II	Plastic cable entry for cable diameters: Ø 6 to 13 mm
Handset	
Sling protection	Integrated sling protection.
Handset cord	Steel-reinforced steel-clad cord. (Optional black curly cord)
Receiver inset	Dynamic receiver inset with magnetic field generator
Microphone capsule	Electret microphone

4. Overview of the Device
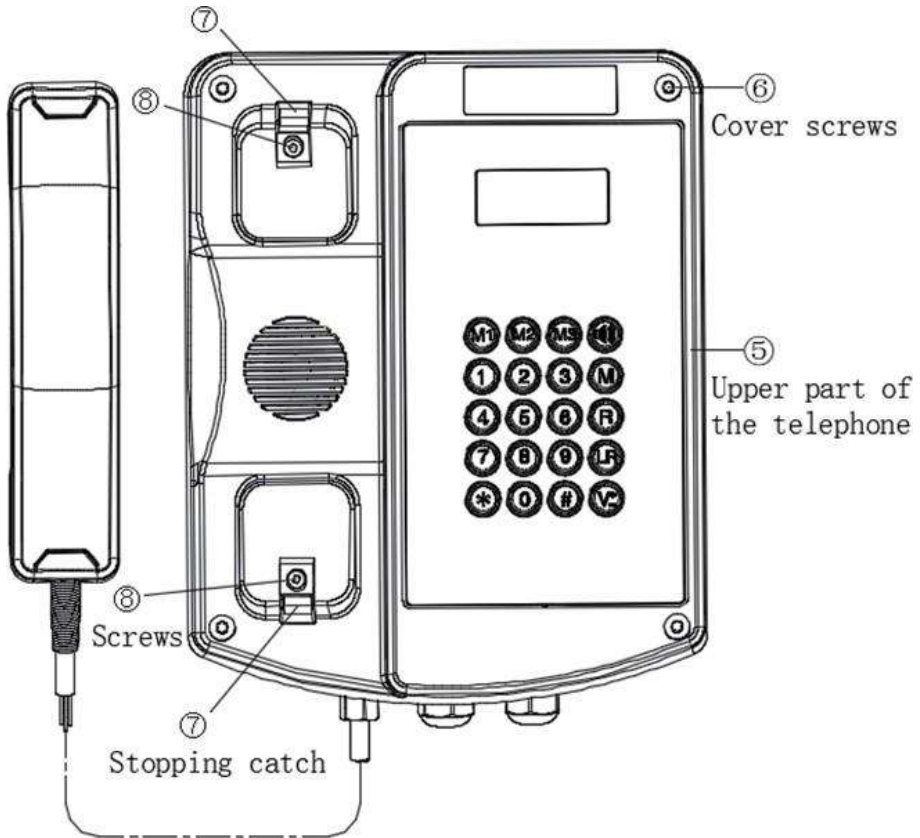
Note: For CB version, the keypad and display are replaced by a solid metal plate.
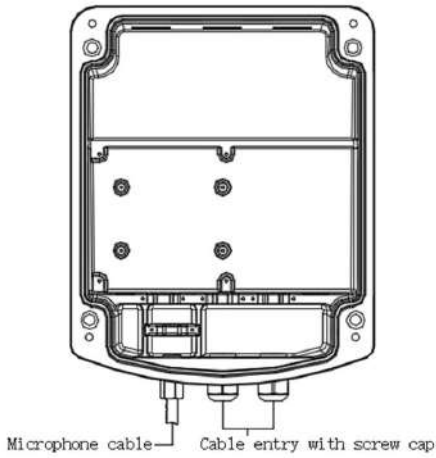
Outside View of the Telephone upper Part
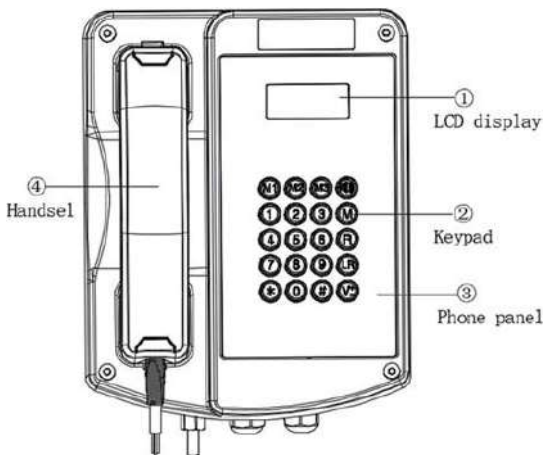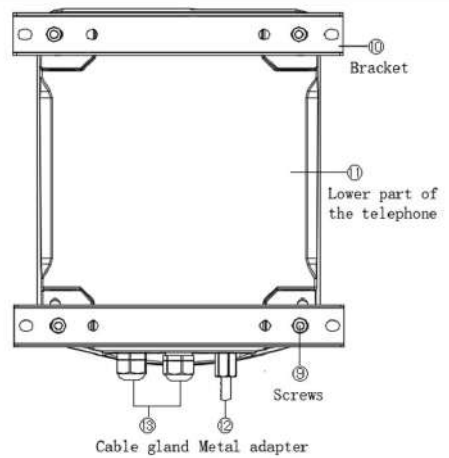

Inside View of the Telephone upper Part
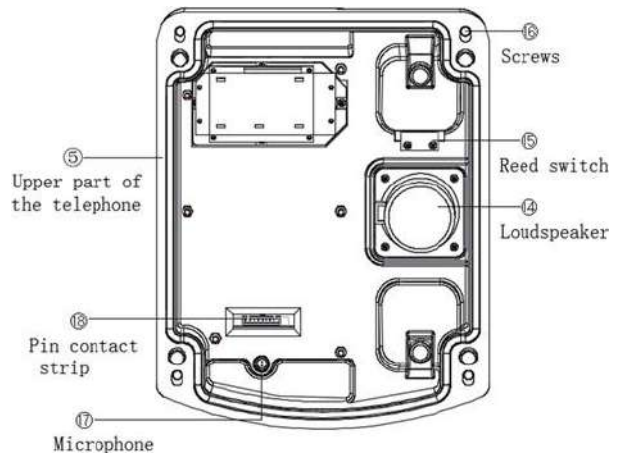
Note: The CB version is not equipped with a pin contact strip.
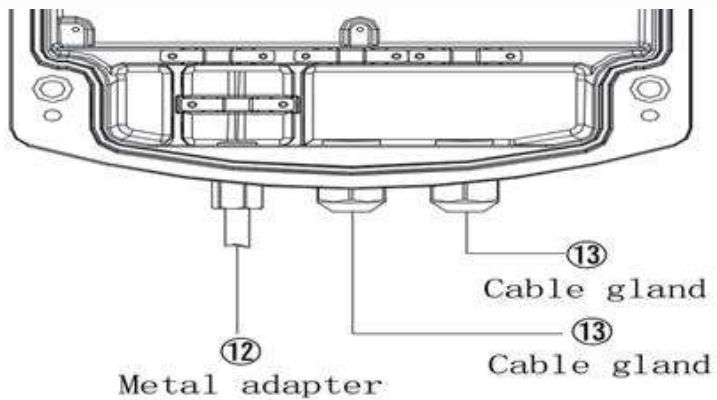
Inside View of the Telephone lower Part

Microphone cable — Cable entry with screw cap

Outside View of the Telephone lower Part

⑩ Bracket

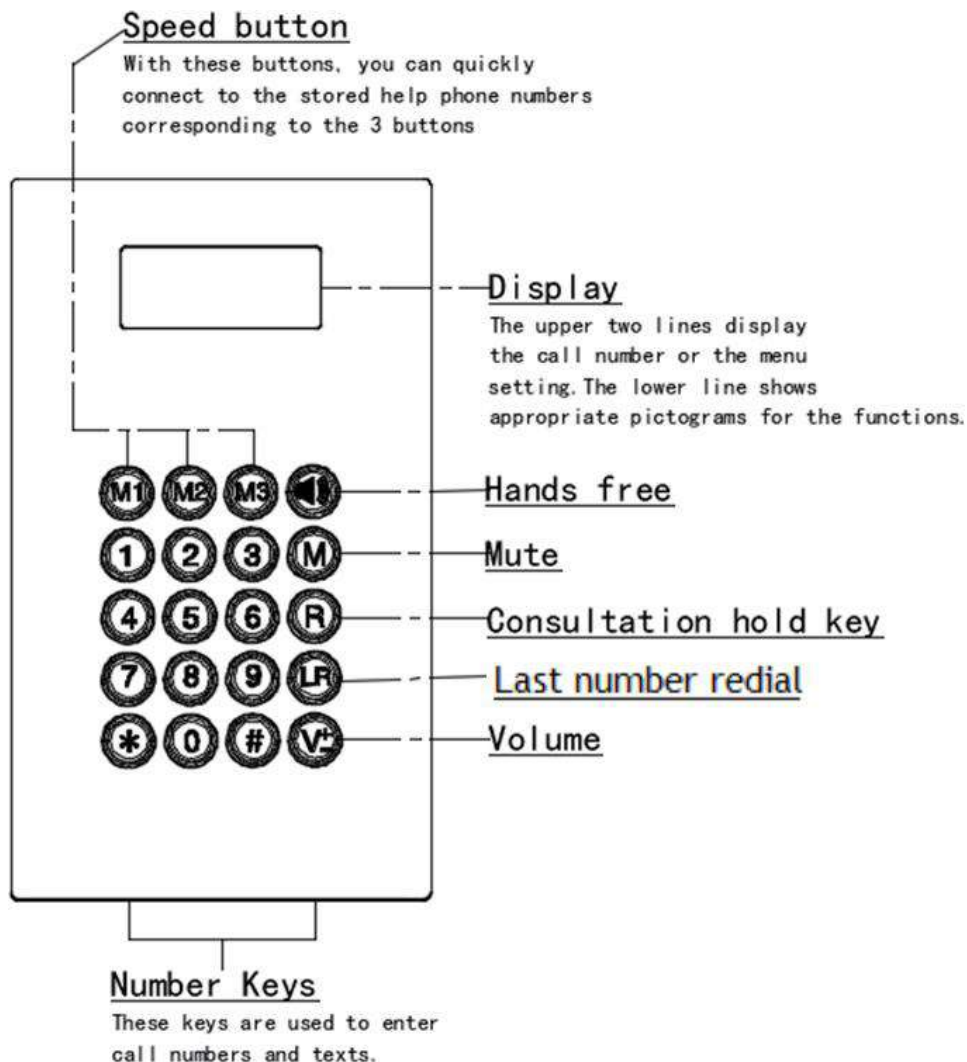⑪ Lower part of the telephone

⑨ Screws

⑬ ⑫
Cable gland Metal adapter

Protection Class I – Components

Factory supplied with: M20x1.5 threaded hole or a 1/2" NPT metal adapter for connecting armoured cables or conduit systems.

⑬ Cable gland

⑬ Cable gland

⑫ Metal adapter

5. Display and Keyboard (Except for CB Version)

Speed button
With these buttons, you can quickly connect to the stored help phone numbers corresponding to the 3 buttons

Display
The upper two lines display the call number or the menu setting. The lower line shows appropriate pictograms for the functions.

Hands free

Mute

Consultation hold key

Last number redial

Volume

Number Keys
These keys are used to enter call numbers and texts.

6. Mode Switch (Except for CB Version)

Handset mode (except CB version)

When picking up the handset, it's in handset mode. Using the keys [V±] , you can adjust the handset volume for talking. If you wish to durably

change the handset volume, use the menu "Settings / Handset volume". Using the key you can switch into open listening mode.

If you keep the key depressed and replace the handset, it will switch to hands-free talking mode.

Hands-free mode (except CB version)

In order to switch the phone to hands free talking mode. Using the keys , then you can adjust the loudspeaker volume for talking. If you wish to

durably change the loudspeaker volume, use the menu "Settings / Loudspeaker". You end the call using the key .

If you pick up the handset, you switch to handset mode.

Working with the headset (except CB version)

If the headset has been connected correctly, it takes the place of hands free talking. For this reason, hands-free talking with the headset is not possible.

If you switch on the JREX106 with the key , you are operating in headset mode. If you lift the handset while in headset mode, the handset assumes a higher priority. That means that it is possible to speak and listen using the handset but, in this mode, it is only possible to listen with the headset.

Comparison of the operating states without and with connected headset:

Operation without the headset	Operation with the headset
Handset mode	Handset mode with the headset - Handset can speak and listen - Headset can only listen - Loudspeaker is off
Hands-free mode	Headset mode - Handset is replaced - Headset can speak and listen - Loudspeaker is off

Using the keys you can adjust the headset volume for talking. If you wish to durably change the headset volume,

use the menu "Settings / Headset Volume". You end the call using the key .

7. CB (Hotline) Version Notes

After setting up the speed dial number on the web page (see VoIP phone User Manual), you can dial the number after picking up the phone.

Note: The set up of the external loudspeaker reduces the volume of the internal ringer even if the external loudspeaker is not connected.

Thus the CB version offers the following features:

- ★ Establishing a connection by lifting up the handset
- ★ Ringing integrated ringing device
- ★ Connection of second earpiece
- ★ Connection of secondary ringer
- ★ Connection of external loudspeaker

Note: The set up of the external loudspeaker reduces the volume of the internal ringer even if the external loudspeaker is not connected.

8. Explosion Protection – Device Description

Regarding the explosion protection the JREX106 telephone and the JREX106-CB telephone version are identical.

The explosion protection enables the user to make and receive calls within hazardous areas of zone 1, zone 2, zone 21, zone 22, in presence of an explosive gas or dust atmosphere.

The JREX106 telephone is manufactured in the following protection classes:

II 2G Ex e [ib] mb IIC T4 Gb

II 2D Ex tb [ib] IIIC T135 °C Db

**-40°C ≤ Ta ≤ +70°C**

9. Assembly and Installation

The telephone must be installed on a plane surface in vertical operating position only. Loosen the cover screws and detach the upper part of the telephone. If the optional accessory headset is being employed, attach the bracket using two screws to the rear panel of the lower part of the telephone. (With the accessories named before, the bracket and screws are in the scope of delivery. With all accessories a cable gland is delivered).

Put four screws, having a head diameter of 10 to 13 mm into the holes and attach the lower part of the telephone to the wall or to a holder. Guide the telephone wire through the cable gland and place it on the terminals. Only wires having a sheath diameter of 5.5 to 13 mm should be used because otherwise the IP67 housing protection standard is not guaranteed. Prior to assembly, check cover seal for tightness.

Using the plug connector, plug the ribbon cable onto the pin contact strip in the upper part of the housing. Attach the upper part of the telephone and fasten it to the lower part of the telephone with the four cover screws. Upon disassembly of optional accessories, suited sealing plugs must be used to close the resulting openings. In this telephone connected cords may have hazardous voltages. To ensure that no water gets into the enclosure it is essential that no gaskets are damaged during installation. The ingress of water can cause accessible parts of the telephone to become live.

The locking torque of the upper part screws is: 1.2 …1.5 Nm. Installation and connection must be carried out by competent personnel familiar with electrical and network installations.

Inside View of Telephone upper Part
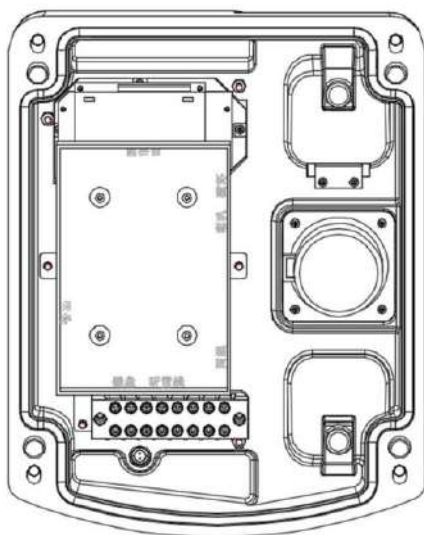
Inside View of Telephone lower Part
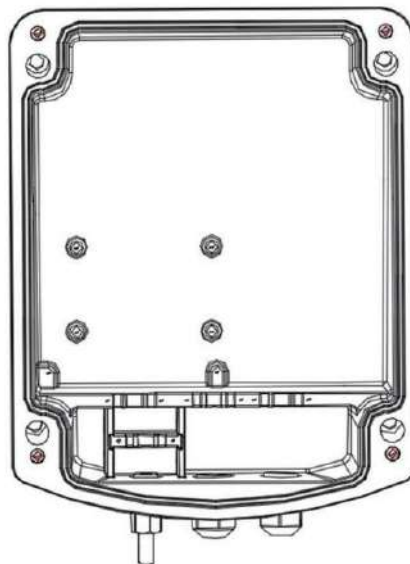
Requirements for cables

The line requires the use of cables larger than 0.5mm. The larger the diameter, the better the effect. It is best to connect the cable with a protective sleeve.

Sling holder

The holding strength for the handset is continuously adjustable. Loosen the screws and move the stopping catches. Pushing the stopping catches together increases the holding strength whereas pulling them apart reduces it. Tighten the screws again.

Drilling Diagram

For making a drilling template
please use the right side dimensions (in mm).

The diameter of the drilled hole is dependent on the
screw employed (screw diameter max. 8 mm) and the
type of supporting base material (steel, wood, concrete,
plasterboard etc.) and must be chosen accordingly.

Upon disassembly of optional accessories, suited blind plugs must be used to close the resulting openings.

Connecting a second ringer (bell-shunt) (optional accessory)

Remove the sealing plug and tighten the M20x1.5 cable gland cap. Insert the wire of the second ringer and place it on the terminals in accordance with the connection diagram. Only utilise wires which have a sheath diameter of 5 to 9 mm because otherwise the IP67 housing protection standard is not guaranteed.
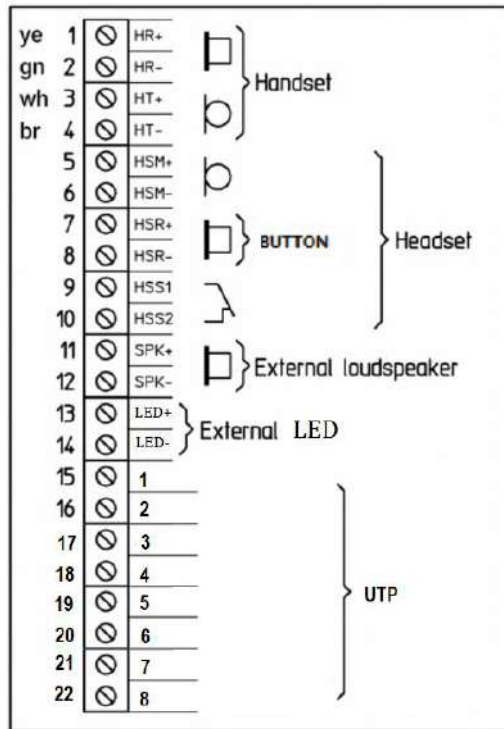
Connecting an external loudspeaker (optional accessory)

Remove the sealing plug and tighten the M20x1.5 cable gland cap. Insert the wire of the loudspeaker and place it on the terminals 11 and 12 (SPK+, SPK-) in accordance with the connection diagram. Only utilise wires which have a sheath diameter of 5 to 9 mm because otherwise theIP67 housing protection standard is not guaranteed.

Connecting a headset (optional accessory)

Remove the sealing plug and tighten the M20x1.5 cable gland cap. Guide the specially-manufactured wire with the headset socket (included in the delivery of the headset) through the cable screw cap and place it on the terminals 5 through 10 (HSM+, HSM-, HSR+, HSR-, HSS1, HSS2) in accordance with the connection diagram. Only the wire included in the delivery for the headset should be used, because otherwise the IP67 housing protection standard is not guaranteed.

10. Connecting Plan

ye	1	⊘	HR+	} Handset
gn	2	⊘	HR–	
wh	3	⊘	HT+	
br	4	⊘	HT–	
	5	⊘	HSM+	
	6	⊘	HSM–	
	7	⊘	HSR+	BUTTON } Headset
	8	⊘	HSR–	
	9	⊘	HSS1	
	10	⊘	HSS2	
	11	⊘	SPK+	} External loudspeaker
	12	⊘	SPK–	
	13	⊘	LED+	} External LED
	14	⊘	LED-	
	15	⊘	1	
	16	⊘	2	
	17	⊘	3	
	18	⊘	4	} UTP
	19	⊘	5	
	20	⊘	6	
	21	⊘	7	
	22	⊘	8	

11. Advanced Settings (Quick Set-up)

The explosion proof telephone is manufactured by J&R and subject to stringent quality controls. If you have questions regarding the telephone or if a malfunction has occurred – even after the guarantee period – please contact J&R or the distributor in your area.

1.Web interface

You can use any standard web server (such as Microsoft Internet Explorer) to access the web interface of the IP phone. The IP address used to access the web interface is the IP phone address, received from a DHCP server or manually configured (static IP address) Enter the phone's web interface:

1. Connect the phone's WAN port to the IP network (use your local Internet service provider's network cable or ADSL modem).
Determine the IP address obtained from the DHCP server, you can see the IP address on the LCD display. Or after the phone connects to the network (it takes 40 ~ 60 seconds to successfully connect to the network), you can hear the voice of the IP address broadcast.

2. Open the web interface and enter the IP address of the phone (such as https://192.168.0.7) in the UPL address field, as shown below:

← → ✕   ⊕   192.168.0.16

The web login window appears：

Web login window

3. Enter the User name and Password, and then click OK.

　Note: The administrator's default login user name and password are "admin" and "admin" respectively.

4. When there is no DHCP server, the phone cannot obtain a dynamic IP address. This phone has a second IP address. This IP address is static.
　You can connect to the phone through 192.168.188.200.

2. Quick Setup

To quickly setup your phone:

Access the "Quick Setup" page (Configuration tab > Quick Setup menu > Quick Setup)

Quick Setup Web Fields

If shown in the figure above:

1. First select the use SIP proxy in the SIP proxy registration server bar to open, and then fill in the IP address of the IP server at the proxy server address. Other parameters remain unchanged as shown in the figure.

2. Fill in the line identification username, password and other information in the line Settings bar, and then click submit to complete the registration.

3. After successful submission, you can view the registration results in the VOIP status bar, as shown in the following figure:
Go to "VOIP status" page (status TAB → system status menu → VOIP status)

3. Configure the static IP address

The phone's LAN configuration includes defining a method for obtaining an IP address. The IP address of the phone can be static. By manually entering the IP address, it can also automatically obtain an IP address from a DHCP server.

The method of setting the static IP address is as follows:
Go to the Quick Configuration page (Configuration tab → Quick Configuration menu → Quick Configuration)

Quick Configuration Page Field

Select Static IP on the right of IP mode, then enter the static IP address to be set in the IP address box, fill in 255.255.255.0 in the subnet mask box, fill in the default gateway address in the Default gateway box, and click Submit.

Note: Please record the modified static IP address to avoid being unable to log in to the WEB configuration page after forgetting.

4. Modify the user login credentials

Go to the "User Management" page (Management tab → Phone Management menu → User Management)

System Authorization Page Field

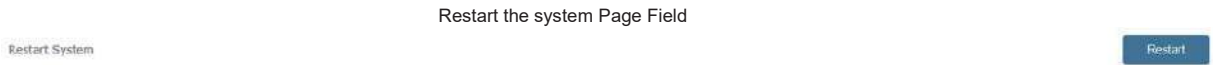In the username field, enter the username.
In the password field, enter a new password, and then re-enter the new password in the confirm password field.
Click submit, A confirmation box appears.
Click OK.

5. Restart the phone

Go to "restart" page (management TAB → phone management menu → restart system)

Restart the system Page Field

Restart System   Restart
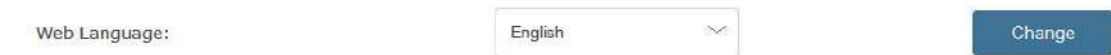
Click the restart button, a confirmation box will appear, prompting you to confirm, then click confirm.

6. Language switching

Switch between English and Chinese

Go to the "Reset System" page (Administration tab → Phone management menu → Restart system).

Web Language: English   ⌄   Change

7. Restore factory settings

Restore the factory default settings of the phone：

Go to the "Reset System" page (Administration tab → Phone Management Menu → Reset System).

Restore Defaults Page Field

Restore_to_Factory_Defaults   Submit
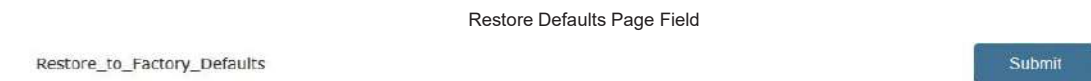
Click the submit button, a confirmation box will appear, prompting you to confirm, then click confirm.

12．Mounting

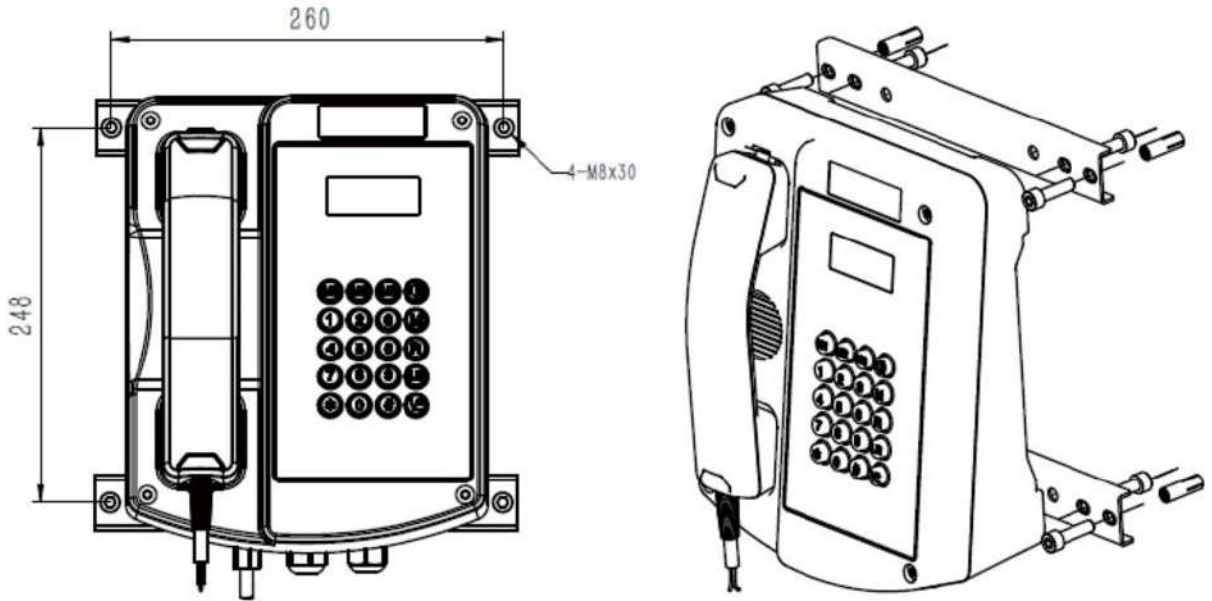### Contents after unpacking

★ Explosion proof telephone
★ Operating instruction (optional)
★ Explosion proof Horn and beacon (optional)
★ Mounting screws and tamper screwdriver

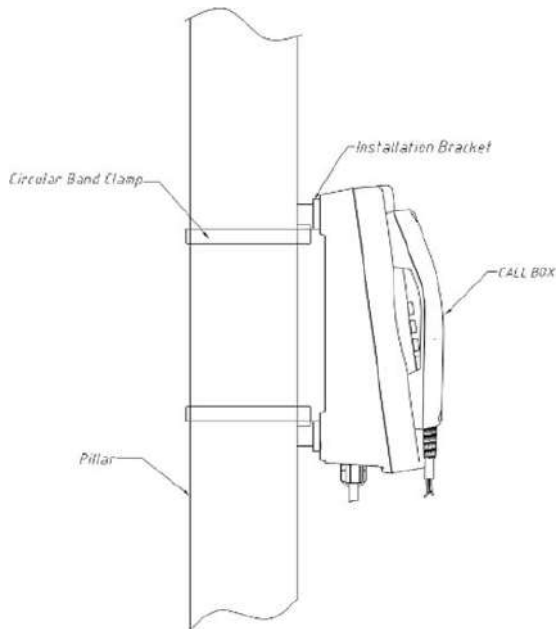The telephone may be mounted hanging vertically on a wall or hanging vertically on a mounting plate.

Wall Mounting

Column Mounting

13. Information

1 Service

The weatherproof telephone is manufactured by J&R and subject to stringent quality controls. If you have questions regarding the telephone or if a malfunction has occurred – even after the guarantee period – please contact J&R or the distributor in your area. Please have the type and series number ready (these numbers can be found on the telephone side or on the PCB) when you contact us.

2 Care and Maintenance

The telephone is maintenance-free. Still, if the operating area highly contaminated by dust, fat, oil etc., the telephone should be cleaned from time to time. The telephone may only be cleaned using a damp cloth in order to avoid electrostatic charging. Never use sharp objects for cleaning. During maintenance, check accessible seals for function, e. g. regarding possible damage or positioning. If the seals are damaged, operating the telephone is not allowed. Damaged seals must be replaced.

3 Disposal

The complete telephone should be disposed of as electronic waste. When the telephone is disassembled, plastics, metals and electronics components are to be disposed of separately. In every single case the national requirements and regulations for waste disposal must be observed.

4 Warning and Security Instructions

This telephone is an explosion proof and weatherproof telephone especially for use in a harsh industrial environment.

⚠	**⚠ DANGER** The telephone is suitable for use in Group II, Category 2G and 2D or non-hazardous locations only.
⚠	**⚠ WARNING** **EXPLOSION HAZARD** Do not disconnect the telephone unless power has been removed or the area is known to be non-hazardous.
⚠	**⚠ WARNING** **EXPLOSION HAZARD** Substitution of any components may impair suitability for Group II, Category 2G and 2D.

The following warning and security instructions must be respected:

This equipment is an explosion-proof and weather-resistant telephone specifically designed for operation in a harsh industrial environment. The following warning and safety instructions must be heeded:

1. Do not connect or operate the telephone with voltages other than the voltages specified. Make sure the PE wiring is connected properly on the Protection Class I model. All cabling should be routed such that it does not present a tripping hazard.

2. The telephone must only be operated under the specified ambient conditions (see section "Technical data"). Adverse ambient conditions, such as e.g. ambient temperatures which are too high or too low, are not permissible because this promotes the failure of electronic components.

3. It must be ensured that the telephone, the connection wire etc. are not damaged. It is not permissible to operate the telephone in a damaged state.

4. When operating the telephone, please heed the legal and commercial / industrial regulations, accident-prevention regulations and electrical regulations / provisions.

5. Repairs are only permissible with original spare parts which must be replaced by a specialist. Other replacement parts can cause damage and render the guarantee invalid.

6. The stipulated position of utilization must be adhered to. The telephone must be installed on a plane surface only, in vertical operating position.

7. Magnetic fields with energy technical frequencies can cause a slight impairment of the listening quality. If this is the case, please ensure that the telephone is installed at a suitable location.

8. The telephone must be switched off before opening. Wait at least 2 minutes after switching off power before opening the telephone!

9. In the open state of the telephone no dust may ingress the device.

10. Upon mounting or demounting the device, do not damage the cover seal, which keeps the cover tight, or the collar on the lower part of the housing.

11. Upon repairing the apparatus for use in dust, the repaired parts should once again be subjected to a routine test.

12. The mouthpiece horn of the receiver consists of a non-conductive plastic material. It may become dangerously charged at high air speeds. Consequently, cleaning the mouthpiece horn with pressurized air is prohibited.

13. If there is a high concentration of sulphurous gases in the environment,the lettering of the keys can fade and a rust film can arise.

14. Changes to the product which are in the interests of technical progress are possible even without prior notice.

14. Type Label

15. CE Symbol

We hereby declare this product is in compliance with the Essential Health and Safety Requirements of

ATEX Directive 2014/34/EU,

EMC Directive 2014/30/EU,

Low Voltage Directive 2014/35/EURoHS Directive 2011/65/EU and

Waste of Electrical and Electronic Equipment WEEE Directive 2012/19/EC

The appropriate standards, technical regulations and specifications you can take from the attached conformity declaration and the conformity declarations on ourWebsite.

J&R TECHNOLOGY LTD.
6/F, A1, Xingyi industrial city, Baishixia Est., Fuyong, Bao'an, Shenzhen, China
Web: www.jrtelephone.com Phone +86 - 755 - 27322952 Fax +86 - 755 - 27322197
Mail: info@jr-ltd.com Orders: sales@jrteck.com