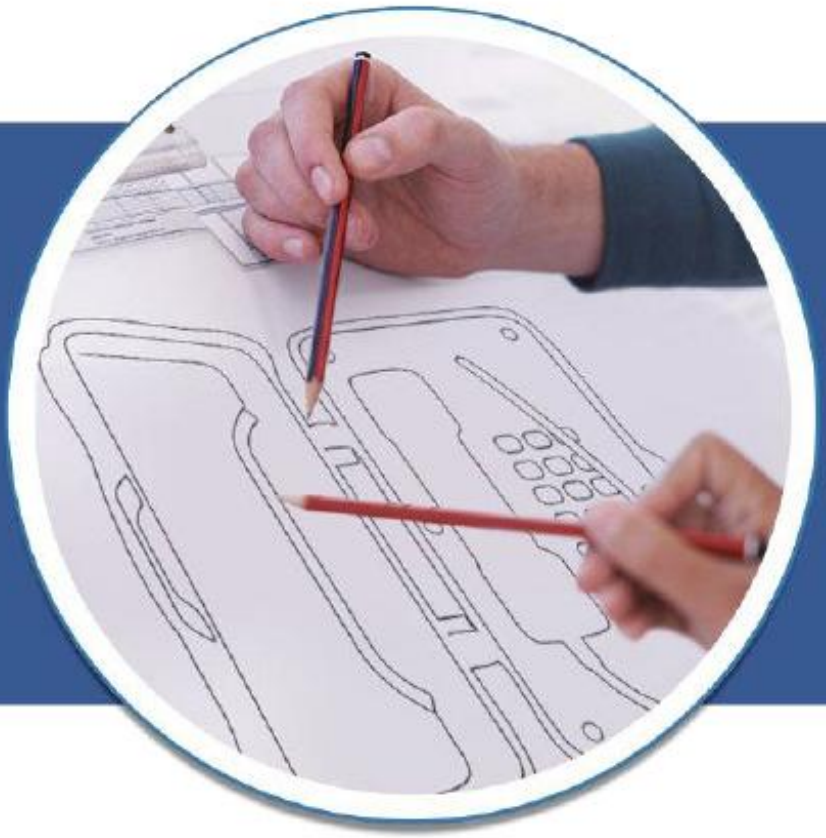
LIGHTCOM
Reliability in Every Call



LC100 Series

Analog Phone Installation and User Guide

LIGHTCOM
Reliability in Every Call



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Foreword

The LC100 series analog telephones are fully contained within a corrosion resistant cast aluminum weatherproof case providing complete protection against dust and moisture ingress, resulting in a highly reliable product with a long MTBF. The unique robust handset is manufactured from molded 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.

Standard analogue LC100 series telephones provide basic telephone functions and can be connected to any standard two-wire telephone line, including analogue PABX lines and PSTN.

The LC100 series Weatherproof Telephones are designed for use by the railways, power stations, the armed services and heavy industry which require very reliable telephony under adverse conditions.

1. General Operating Instructions

1. All the weatherproof telephone in KB (full keypad) version, AD (hotline, auto-dial) version, and PB (handsfree) version are designed for connection to dial ports with analogue connection points.

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. The AD (hotline, auto-dial) version and PB (handsfree) version are not equipped with keypad, therefore not all the features are available with this version.

4. 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.

5. Forgetting the PIN is the equivalent of losing a key. If you forget the PIN, please contact our technical support.

2. Warnings and Safety Instructions



This equipment is a weatherproof telephone specifically designed for operation in indoor. The following warning and safety instructions must be heeded:

1. Do not connect or operate the telephone with voltages other than the voltages specified. 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. Adverse ambient conditions, such as ambient temperatures which are too high or too low, are not permissible because this promotes the failure of electronic components.

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

4. 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.

5. The telephone must be installed on a plane surface only, in vertical operating position.

6. 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.

7. Upon mounting or demounting the device, do not damage the cover seal, which keeps the cover tight.

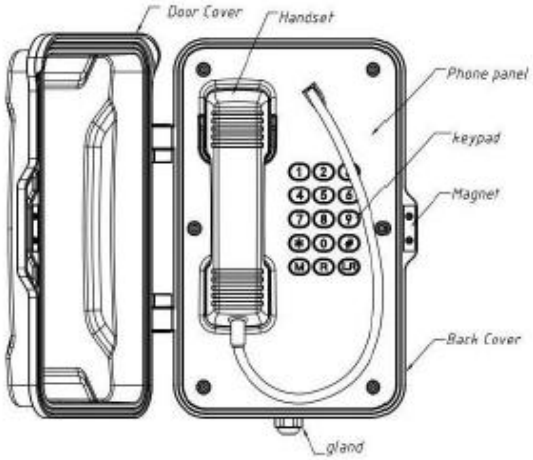
8. Upon repairing the apparatus for use in dust, the repaired parts should once again be subjected to a routine test.

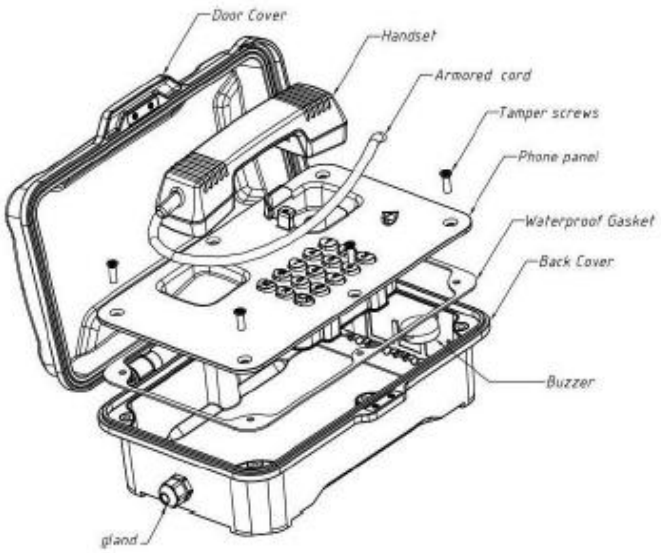
9. Changes to the products which are in the interests of technical progress are possible even without prior notice.

3. Product Features

- Standard Analogue phone
- Power supply: Telephone line
- Robust construction, aluminum alloy material
- Weather proof protection: IP66 - IP67
- KB Version: waterproof silicone keypad with memory
- AD version: without keypad, programmable for auto-dial
- PB version: without keypad, handsfree operation, push button to call
- Can be programmed remotely by tone phone or locally via keypad
- Fast-fit terminal connection
- Non-volatile memory
- Tamper resistant fixings. Simple installation
- Various mounting option, Wall/Pillar mounted
- CE, FCC, IP67, IK10, RoHS, ISO9001 compliant

4. Overview of the Device





5. Contents After Unpacking

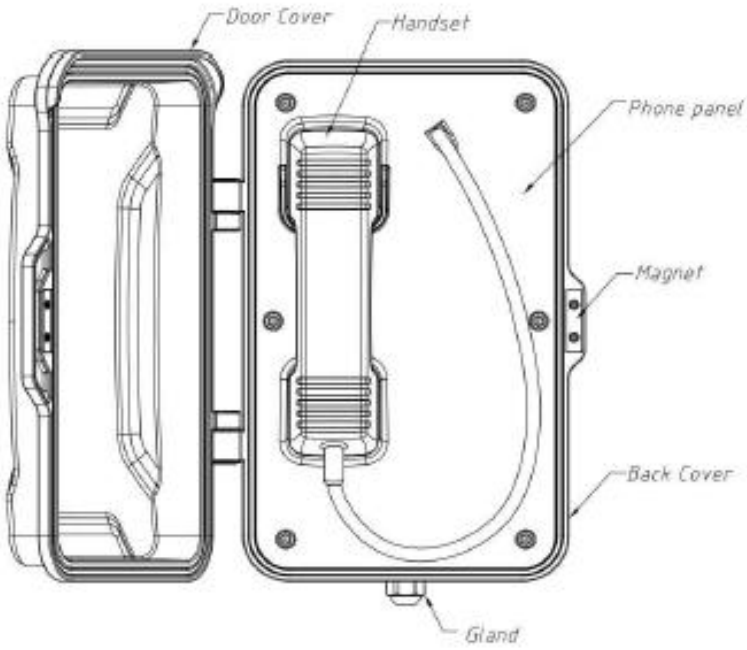
The delivery includes:

- Weatherproof telephone
- Operating instruction

- Beacon, Horn (optional)
- 2 mounting bars for installation
- Mounting screws and tamper screwdriver

6. AD Version Notes

The weatherproof phone in AD (auto dial) connects – depending on the features of the PABX – with the PABX while lifting the handset. The weatherproof phone / AD can also be called, because the ringing circuit is built in. Auto dial number can be pre-programmed via the build-in keypad or via phone calls (See Advanced Settings).

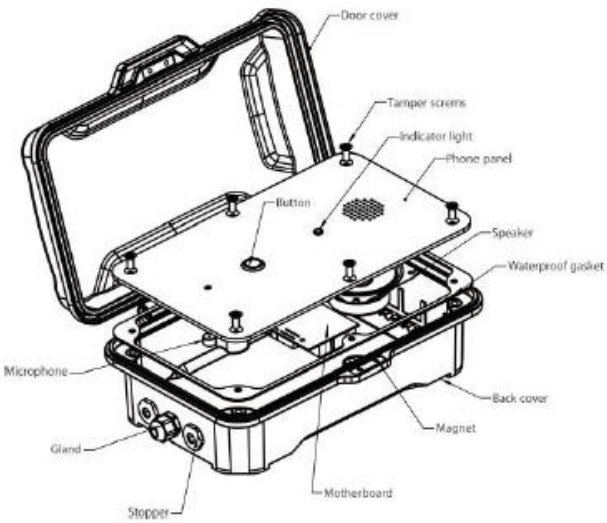


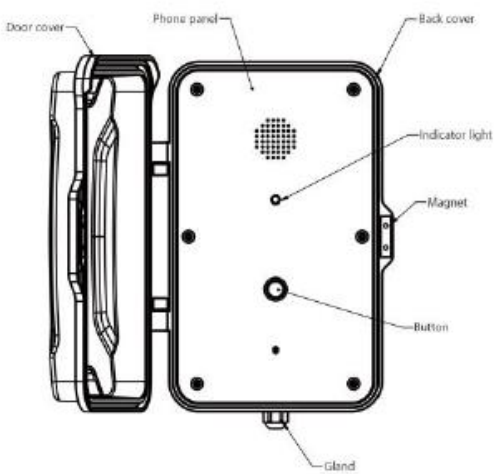
7. PB Version Notes

The weatherproof phone hands-free PB (auto dial) connects- depending on the features of the PABX - with the PABX while press the button.

The weatherproof phone can be called also, because the ringing circuit is built in. Auto dial number can be pre-programmed via the build-in keypad.

(see Advanced Setting).





8. Technical Data

Connection data	
Supply voltage	24 VDC to 65 VDC
Supply current	20 mADC to 100 mADC
Ringer voltage	48 VAC to 90 VAC (calling frequency 21...54 Hz)
Ringer impedance	Greater than 6.0 kΩ at 25 Hz and 48...90 VAC. Greater than 4.0 kΩ at 50 Hz and 48...90 VAC.
Consultation hold key	Flash function adjustable from 50 ms to 450 ms
Dialling method	PD or DTMF mode can be set via the menu. DTMF mode in accordance with ITU-T recommendation Q.23.
Connection terminals	Up to 4 mm2 inflexible. Up to 2.5 mm2 flexible
Housing	
Material	Aluminum alloy die-casting
Height x width x depth	approx. 339 mm x 246 mm x 126 mm
Weight	approx. 6 kg
Keyboard	Silicone keyboard with 15 key.
Handset	
Sling protection	Integrated sling protection.
Handset cord	Steel-reinforced steel-clad cord.
Microphone capsule	Electret microphone
Ambient conditions	
Protection type:	IP66-IP67 as per EN60529
Operating temperature	-40°C to +70°C
Storage temperature	-40°C to +85°C
Position of operation	Mounted upright on the wall. The device must be mounted on a plane surface only.
Additional features	
Hook switch	Dry reed contact without a mechanical cradle
Power supply	- from the analogue telephone network - no additional mains supply required
Meter-pulse lock	- Electrical attenuation for 12 kHz and 16 kHz on the earphone greater than 30 dB with respect to 1 kHz. - Impedance (telephone connections A, B): approx. 13 kΩ (1 Veff ; 12 kHz; idle state) approx. 4 kΩ (10 Veff ; 12 kHz; idle state) approx. 2.5 kΩ (1 Veff ; 12 kHz; during a call) approx. 2.3 kΩ (10 Veff ; 12 kHz; during a call) approx. 11 kΩ (1 Veff ; 16 kHz; idle state) approx. 4 kΩ (10 Veff ; 16 kHz; idle state) approx. 2.5 kΩ (1 Veff; 16 kHz; during a call) approx. 2.3 kΩ (10 Veff; 16 kHz; during a call)
Ringer volume	- Approx. 85dB(A) at a distance of 1 m

9. Package Specifications

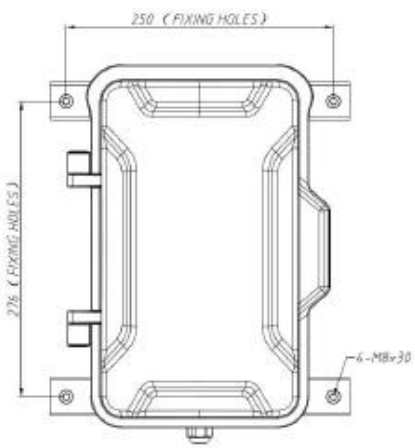
- Material: Pearl cotton, Carton
- Dimensions: 440x270x190 mm
- Product weight: 6 Kg
- Gross weight: 7 Kg

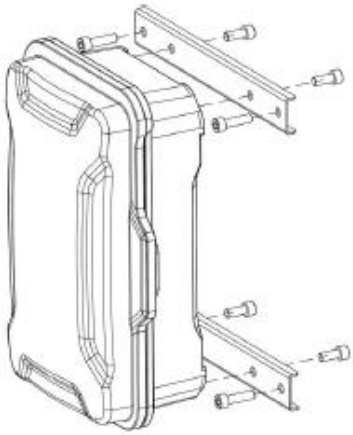


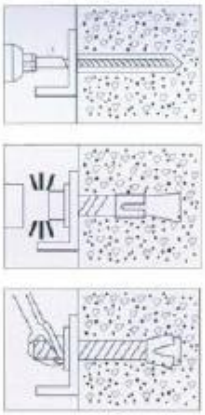


10. Installation

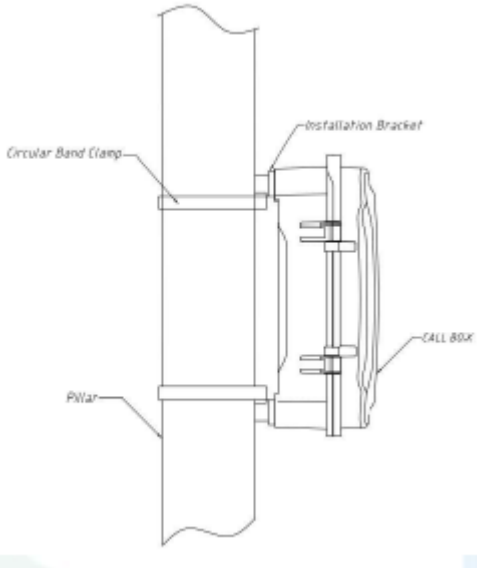
1. Wall Mounting







2. Column Mounting



11. Advanced Settings

The weatherproof phone allows you to program and to change setting by local keypad or by phone calls.

Note: Factory default password is 9999.

Here is the programming instruction for weatherproof phone:

1. Off-hook (or making a phone call and getting answered)

2. Press *# to enter programming mode (you will hear two beeps when entered programming mode)

3. Press 9999 followed by # (you will hear two beeps when password is correct, and failure with silence)

4. Press a program parameter

5. Press a program data followed by # (you will hear two beeps when programming is succeeded, and failure with silence)

Note: Please make sure the telephone line is connected before programming.

Here is the SMS command format: *#Password#Program Parameter Data #

Three function keys

M: mute button, press the button to mute the mic

R: Flash function

LR: Redial function.

Reset to factory settings

99 is the program parameter to reset to factory settings, the whole string is: *#9999#99#

Change Password

E.g. Change the password to 1235, 00 is the program parameter to change password, the whole string is: *#9999#001235#

Store a speed dial number

E.g. Store a speed dial number “911” on button 5, 1 is the program parameter to store a speed dial number, the whole string is: *#1235#15911#

Note: You can store speed dial numbers to 0~9 buttons, and just need change the button number after the program parameter. The speed dial

number can be 3~14 digits.

Delete a speed dial number

E.g. Delete the speed dial number on button 5, 1 also is the program parameter to delete a speed dial number, the only difference is no phone number followed the button number, the whole string is: *#1235#15#

Hold time for speed dial

E.g. Change holding time to 5s to launch the speed dial number, 41 is the program parameter to change the holding time, the whole string is: *#1235#415#

Note: The holding time can be 1~9 seconds, default is 3 seconds. E.g. If you stored a speed dial number 911 on button 5, you can lift the handset and press button 5 and hold it for 3 seconds, then release the button, while 911 is dialed out.

Store auto dial number (AD version only)

E.g. Store an auto dial number “911”, 11 is the program parameter to store an auto dial number, the whole string is: *#1235#11911#

Note: The software for AD version is different from full keypad version.

Delete auto dial number (AD version only)

E.g. Delete the auto dial number on button 5, 11 also is the program parameter to delete auto dial number, the only difference is no phone number followed the button number, the whole string is: *#1235#11#

Talk time limit

E.g. To limit the talk time to 5 minutes, 20 is the program parameter to set the talk time, the whole string is: *#1235#205#

Note: The talk time can be set to 0~255 minutes, default value is 0 and 0=no limit.

Change flash time

E. g. Change the flash time to 100ms, 31 is the program parameter to change the flash time, the whole string is: *#1235#312#

Note: The flash time has 1~9 levels, 1=100ms, 2=200ms, 3=300ms, 4=400ms, 5=500ms, 6=600ms, 7=700ms, 8=800ms, 9=900ms.

Default value is 6.

Auto answer

61 is the program parameter to switch auto answer, E.g. To enable auto answer after 3 ringing, the whole string is: *#1235#613#

Note: 0=disable, 1=auto answer after 1 ringing, 2=auto answer after 2 ringings, 3=auto answer after 3 ringings, 4=auto answer after 4 ringings, 5=auto answer after 5 ringings, 6=auto answer after 6 ringings, 7=auto answer after 7 ringings, 8=auto answer after 8 ringings, 9=auto answer after 9 ringings.

Default value is 0. This function is for connecting external horn speaker.

12. Heartbeat for Telephone Management

With this function, you can store a service number to receive the “heartbeat calls” from the weatherproof telephone. Heartbeat call means you can set the weatherproof telephone to call the service number every day or every 7 days. In this way you could know the weatherproof is not alive when you did not receive the heartbeat call at the set time.

Store service number

E.g. Store a service number 135241532 to receive heartbeat call, 71 is the program parameter to store service number, the whole string is: *#1235#71135241532#

Delete service number

71 also is the program parameter to delete service number, the only difference is no phone number followed the button number, the whole string is: *#1235#71#

Delete service number

Set heartbeat call cycle

72 is the program parameter to set heartbeat call cycle time, E.g. To set the weatherproof telephone to call the service number every 2 days, the whole string is: *#1235#722#

Note: The heartbeat call cycle time can be 0~9 days, default value is 0=disable the function.

Set heartbeat call time

73 is the program parameter to set heartbeat call time, E.g. To set the heartbeat call time to be 30 seconds, the whole string is: *#1235#7330#

Note: According to above settings, the weatherproof telephone will ring the service number 30 seconds every 2 days no matter the call is answered or not.

Default value=20 seconds. Call time rang can be 10~60 seconds.

13. Service

The weatherproof telephone is manufactured in a facility that adheres to stringent quality standards and is equipped with the latest manufacturing technologies. If you have questions regarding the telephone or if a malfunction has occurred – even after the guarantee period – please contact LightCOM as 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.

Maintenance and servicing

The telephone is maintenance-free. Nevertheless, if the telephone is deployed in areas with significant impurities due to dust, grease, oil etc., then it should be cleaned from time to time. The handset and the telephone should be wiped with a damp cleaning cloth. Caution!

Never use sharp objects for cleaning.

Waste disposal

The device may be completely recycled as electronic waste. Upon disassembling the device, the plastic, metal and electronic components must be disposed of separately.

In every single case the national requirements and regulations for waste disposal must be observed.

The waste-disposal requirements of your country must be observed.

14. Warranty Replacement

1. LightCOM offers free repair for the following products within 1 year, but additional warranties are available at additional cost:

Scope:

- Hardware damage under normal using according to standard operation criterion of LightCOM.
- Other defects authorized by LightCOM.

LightCOM's responsibility for product defects is limited to repair or replacements service as determined by LightCOM in its sole discretion, LightCOM is not responsible

for direct, special, incidental or consequential damages resulting from any breach of warranty or condition.

2. Operation flow of repair

a. Apply for a valid RMA number from LightCOM.

b. LightCOM will check whether the product qualifies for replacement and will respond within one working day via fax or e-mail.

c. Purchaser should send the defective products with original packaging to LightCOM after obtaining the valid RMA number.

d. Within 1 weekdays of receipt of the returned products, LightCOM will send the replacement to the purchaser.

3. Relative explanation

a. LightCOM recommends that you return products by reputable freight forwarders to avoid damage or loss during shipment.

b. LightCOM is NOT responsible for any damage or loss of products during shipment.

c. During the warranty replacement period, LightCOM reserves the ownership of the defective components after replacement.

4. Consider purchasing new equipment

Customers are encouraged to consider purchase of new equipment under warranty, for both the improved reliability of new product, the possibility of a more cost-effective solution, and the warranty coverage provided with the new equipment.

Official Distributor

LIGHTCOM
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