Hazardous Location Analog Phone
IECEx Rated - LCD Display - Wall Mount - IP66
Instruction Manual

WARNING

TO AVOID THE RISK OF FIRE, EXPLOSION OR ELECTRIC SHOCK, THIS PRODUCT SHOULD BE INSTALLED, INSPECTED AND MAINTAINED BY A QUALIFIED ELECTRICIAN ONLY, IN ACCORDANCE WITH ALL APPLICABLE ELECTRICAL CODES.

TO AVOID ELECTRIC SHOCK:

- BE CERTAIN ELECTRICAL POWER IS OFF BEFORE AND DURING INSTALLATION AND MAINTENANCE.
- PRODUCT MUST BE CONNECTED TO A WIRING SYSTEM WITH AN EQUIPMENT-GROUNDING CONDUCTOR.

TO AVOID EXPLOSION:

- MAKE SURE THE SUPPLY VOLTAGE IS WITHIN THE VOLTAGE RATING.
- ENSURE THE MARKED T RATING IS LESS THAN THE IGNITION TEMPERATURE OF THE HAZARDOUS ATMOSPHERE.
- DO NOT OPERATE IN AMBIENT TEMPERATURES ABOVE THOSE INDICATED ON THE PRODUCT NAMEPLATE.
- DO NOT OPERATE IF THE LENS, CORD, SEALS, HOUSING, RECEPTACLES, ETC. IS CRACKED OR DAMAGED. IF SO, DISCONTINUE USE AND CONTACT MANUFACTURER FOR REPLACEMENT PARTS.
- ALL FASTENERS SHOULD BE PROPERLY SEATED.

The Larson Electronics ATEX-HLPH-ALG-DS-SFC-R1 Hazardous Location Analog Phone provides seamless communication in Group I and Group II IECEx rated combustible locations. This analog unit does not require external power or batteries (telephone line-powered). Equipped with a noise canceling handset, operators can save up to 50 names/ numbers into the device. The IP66-rated phone is constructed of glass fiber-reinforced polyester and stainless steel.



The ATEX-HLPH-ALG-DS-SFC-R1 is a cutting-edge phone for hazardous locations and IECEx rated facilities. This analog device features DTMF dialing and contains a 21-key alphanumeric keypad. A 2-line LCD display enables operators view and configure settings. This industrial phone features programmable welcome text, call time counting, auto answer and dry contact for external control automation. When a busy line is detected, the device will automatically release the line upon detection. Operators can save a total of 50 names/numbers in the phone and select up to 9 different ringtones. Four levels are available for backlight, handset, hands-free and ringer volume settings.

Full soft lock setting limits functions to dial out from the phone book only. Half soft lock limits dial out to starting number/area code. The handset is a dynamic receiver with inductive coupling, which caters to hearing aids. The microphone is equipped with noise canceling features. An output of 70 dB @ 3 feet is provided when the loudspeaker is activated. Standard ringer output is 95 dB @ 3 feet.

This flameproof phone is constructed of glass fiber-reinforced polyester and stainless steel. The T6-rated communication device is vandal resistant and features IK09 impact protection. Suitable for use in environments ranging between -25°C to +60°C, the IP66-rated unit can be used in Group I and Group II IECEx rated flammable sites.

General Operating Instructions

The ATEX-HLPH explosion-proof telephone is designed for connection to an analog telephone line or compatible analog telephone interface.

The built-in loudspeaker supports two functions: audible ringing and hands-free operation.

The ATEX-HLPH includes a handset module with a dry reed contact that functions as the hook switch. To end an active call, place the handset back onto the cradle.

Use the programming menu to adjust the phone settings. Press the YES key. The LCD will prompt for a password. Enter 012345 to access the setup menu.

Do not enter the programming menu while the handset is off-hook or while the phone is operating in hands-free mode. If no dialing activity occurs for an extended period, the phone will automatically end the call. If the phone remains in the programming menu for more than 30 seconds without activity, it will automatically exit the menu.

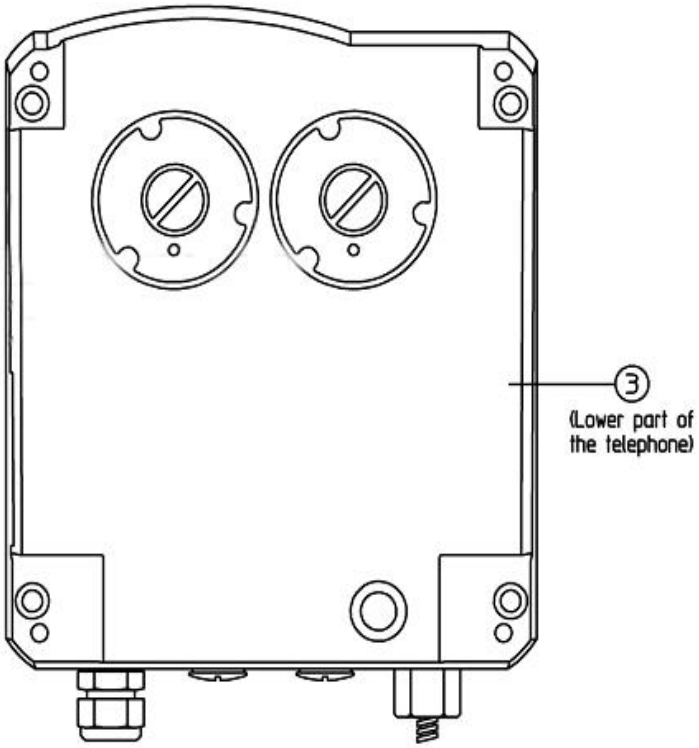
When a setting is saved successfully, the phone will emit an acknowledgement tone.

When an incoming call is received, the ATEX-HLPH will ring at the selected ringer volume. A call indicator will appear on the display while the phone is ringing that looks like this: ((( )))

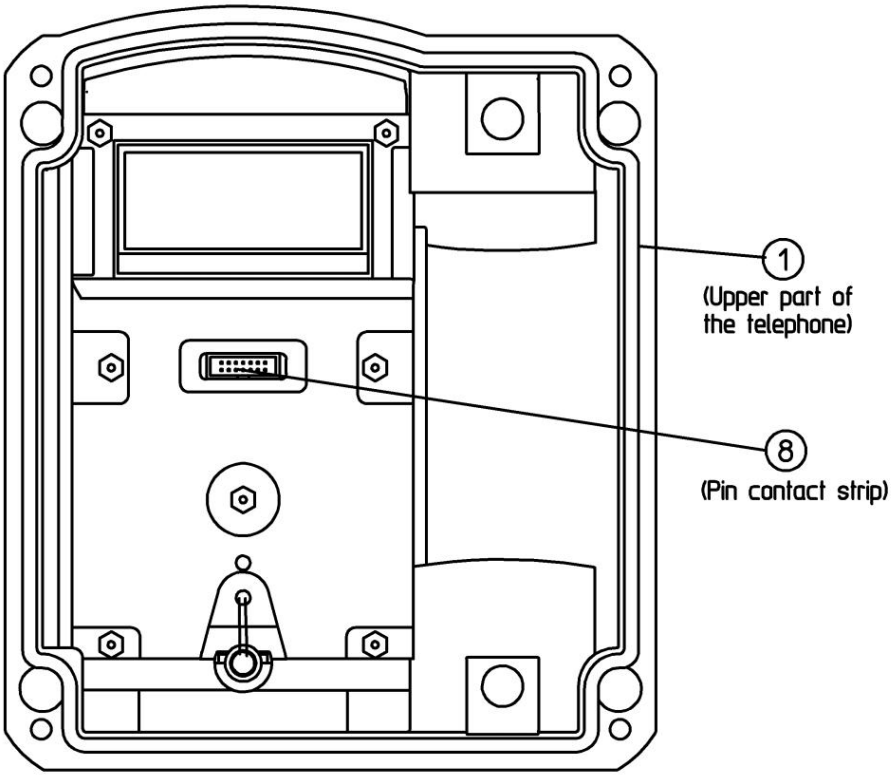
A PIN may be configured through the menu to restrict or block dialing functions. Keep the PIN in a secure location. Losing or forgetting the PIN may prevent access to protected functions. If the PIN is lost, contact Larson Electronics Technical Support for assistance.

Device Overview

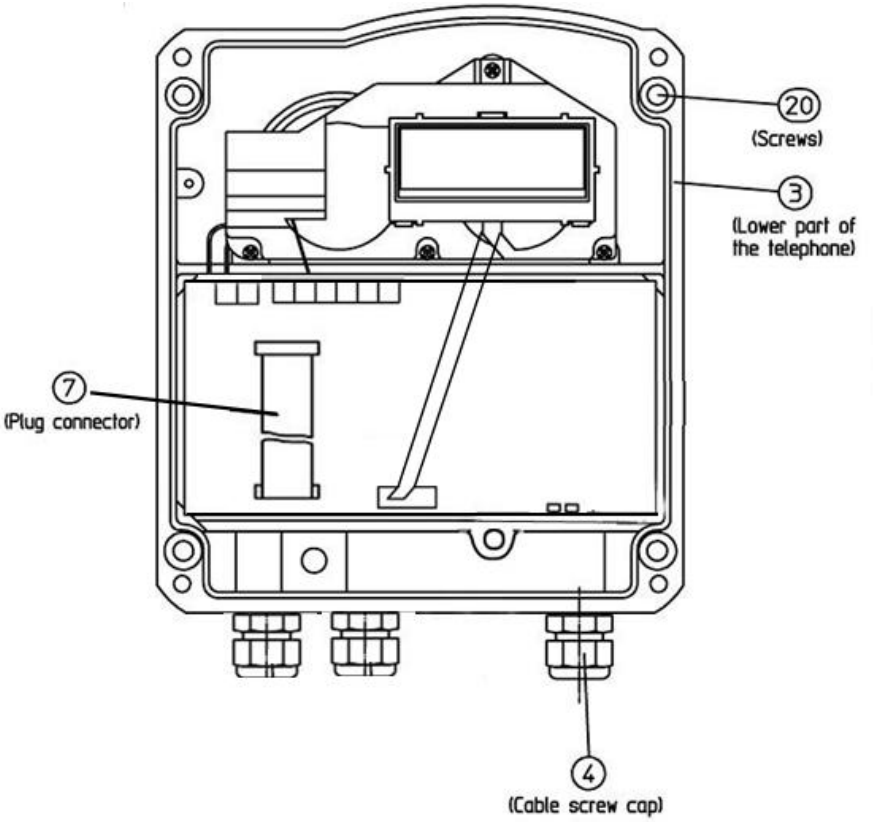
Outside view of telephone lower part



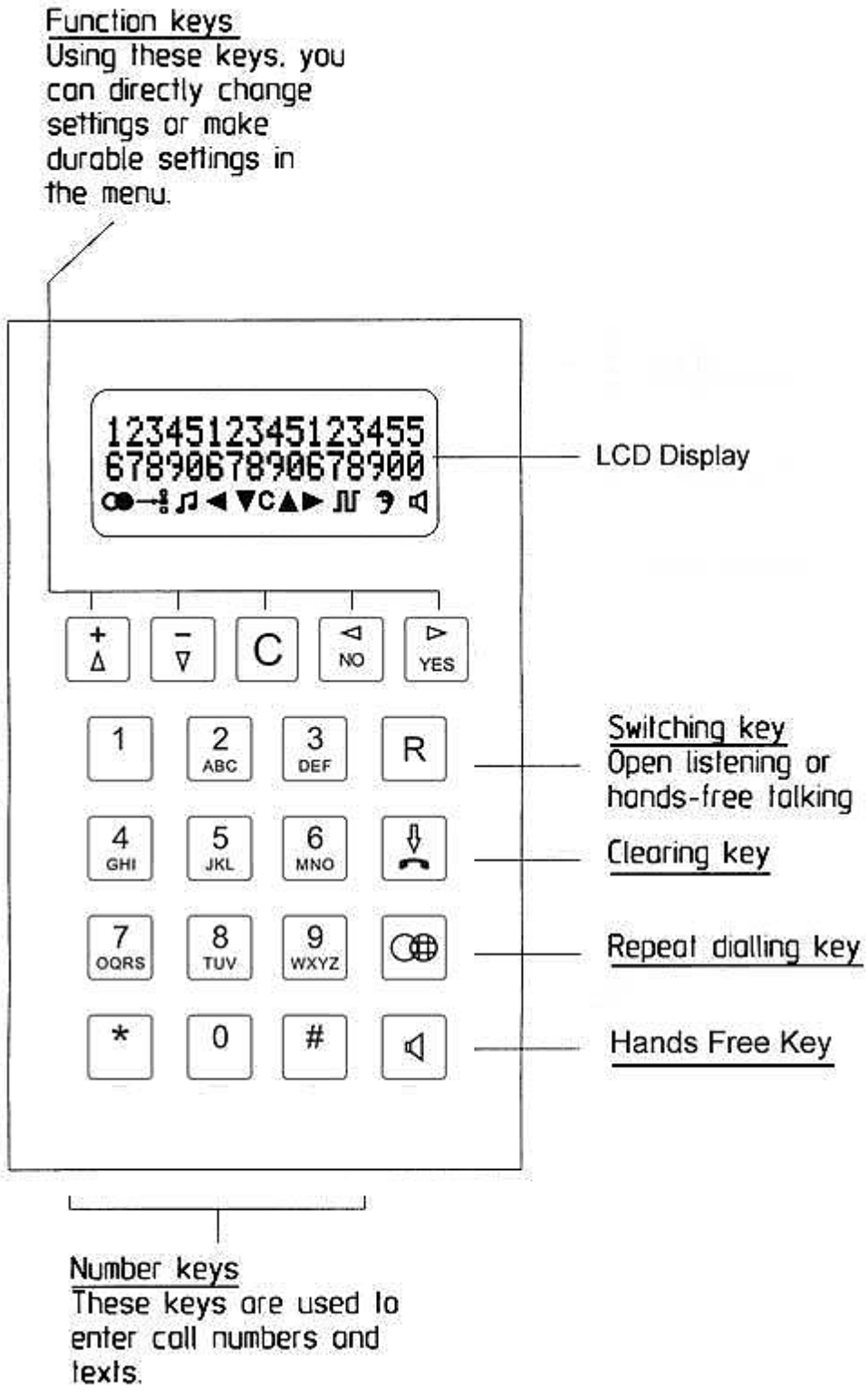
Inside view of telephone upper part



Inside view of telephone lower part



Display and Keyboard



Hazardous Location Protection Description

The Larson Electronics ATEX-HLPH explosion-proof telephone is designed for use in hazardous locations where explosive gas, vapor, or combustible dust atmospheres may be present.

The ATEX-HLPH is manufactured and rated with the following hazardous location protection markings:

Gas Atmosphere Rating:
Ex e ib mb IIC T6 Gb

Dust Atmosphere Rating:
Ex tb IIIC T80°C Db IP66

Ambient Operating Temperature:
-25°C ≤ Ta ≤ +60°C

The Larson Electronics ATEX-HLPH telephone is designed for connection to compatible analog telephone networks.

The telephone's internal protection circuitry converts the non-intrinsically safe voltage from the analog telephone network into the following intrinsically safe circuits:

- An intrinsically safe handset receiver circuit, with terminals located on the side of the telephone housing. This circuit is intended for use with the handset receiver, which is permanently connected to the telephone housing.
- Intrinsically safe terminals located inside the telephone housing for connection to an approved intrinsically safe headset.
- An intrinsically safe circuit with terminals located inside the telephone housing for connection to an approved intrinsically safe loudspeaker.

Hazardous Location Protection – Device Construction

The Larson Electronics ATEX-HLPH telephone housing is constructed from an electrostatically conductive cast-molded material and is equipped with a stainless steel keypad. The keypad faceplate includes a display protected by a sealed viewing window.

The housing consists of a rectangular lower enclosure and a curved upper cover with an integrated keypad. The lower enclosure contains a mounting tray for the internal electronic components.

The upper cover and lower enclosure are joined with a continuous perimeter seal and secured with four screws. Together, these components form the protective enclosure for both the non-intrinsically safe and intrinsically safe electrical circuits.

The electronic circuit board is mounted in the lower housing tray and fully encapsulated in protective compound to help protect the circuitry and reduce the risk of electrical faults.

Non-Intrinsically Safe Terminals

Terminals 9 and 10 are used for connection to the non-intrinsically safe telephone circuit. The incoming telephone line voltage is routed through the internal intrinsic safety barrier, where it is converted to an intrinsically safe circuit for use within the protected portions of the telephone.

The terminal compartment and housing are sealed to maintain the required hazardous location protection. The electronic circuit board is fully embedded in protective compound to help prevent exposure of energized components and reduce potential ignition risks.

Intrinsically Safe Terminals

The intrinsically safe terminal strip extends from the protective compound. Refer to the wiring diagram for terminal identification and connection details.

The 10-pole intrinsically safe terminal strip is used for connection of the handset receiver, which is permanently attached to the telephone housing, as well as approved intrinsically safe accessories.

Terminal assignments are as follows:

- Terminals 1–4: Handset receiver connection
- Terminals 5–6: Microphone connection
- Terminals 7–8: Internal loudspeaker connection
- Terminals 9–10: External loudspeaker connection

Terminal	Note	Use
1 2	Earthing	For connect to earth
3 4	Electret-foil microphone connection (+) Electret-foil microphone connection (-)	Receiver microphone
5 6	Dynamic receiver inset connection (+) Dynamic receiver inset connection (-)	Receiver inset
7 8	Electret-foil microphone connection (+) Electret-foil microphone connection (-)	Hands-free Microphone
9 10	Hands-free Loudspeaker (+) Hands-free Loudspeaker (-)	Hands-free Loudspeaker
11 12	External Telephone Network Cable connector A External Telephone Network Cable connector B **Connect with increased safe connector.**	External Telephone Network Cable

Accessory Connections

To connect accessories, remove the factory-installed blanking plugs from the telephone housing and replace them with properly rated hazardous-location cable glands.

Use M20 x 1.5 cable glands or adapters that are suitable for the installation environment and compatible with the hazardous location rating of the telephone.

Electrical data required for intrinsic safety evaluation is provided in the Characteristic Electrical Data section of this manual.

All accessory connections and cable entry installations must be performed by qualified personnel in accordance with applicable local codes and regulations. For installations in the United States, refer to the National Electrical Code (NEC), NFPA 70, including applicable requirements for hazardous classified locations and intrinsically safe circuits.

Intrinsically Safe Display Interface

The display interface uses an LCD module. The LCD module is connected to the encapsulated circuit board by internal wiring that runs beneath the protective compound.

Intrinsically Safe Wiring Connection to the Built-In Loudspeaker

The built-in loudspeaker is connected to intrinsically safe terminals 7 and 8. The internal leads are soldered directly to the loudspeaker.

Intrinsically Safe Wiring Connection to the Reed Switch

An intrinsically safe 6-pole wiring harness runs from the encapsulated circuit board to the reed switch circuit board. The wiring is routed beneath the protective compound on the encapsulated circuit board.

Intrinsically Safe Keypad Connection

The keypad is connected to the circuit board by an intrinsically safe 14-pole ribbon cable with a plug connector.

Hazardous Location Protection – Characteristic Electrical Data

1. Non-Intrinsically Safe Electrical Circuits

1.1 Telephone Network

Terminals A/B: 11–12

Maximum input voltage (ringing voltage) - AC 90 V

Admissible frequency range - 20…45 Hz

Or

Maximum input voltage - DC 48 V

Maximum input current - 10 mA

Maximum input short circuit current - 100mA

2. Ambient temperature range

-25℃< Ta< +60℃ for temperature class T6

Explosion Protection – identification

Assembly and Installation

The ATEX-HLPH must be installed only on a flat surface and in the vertical operating position.

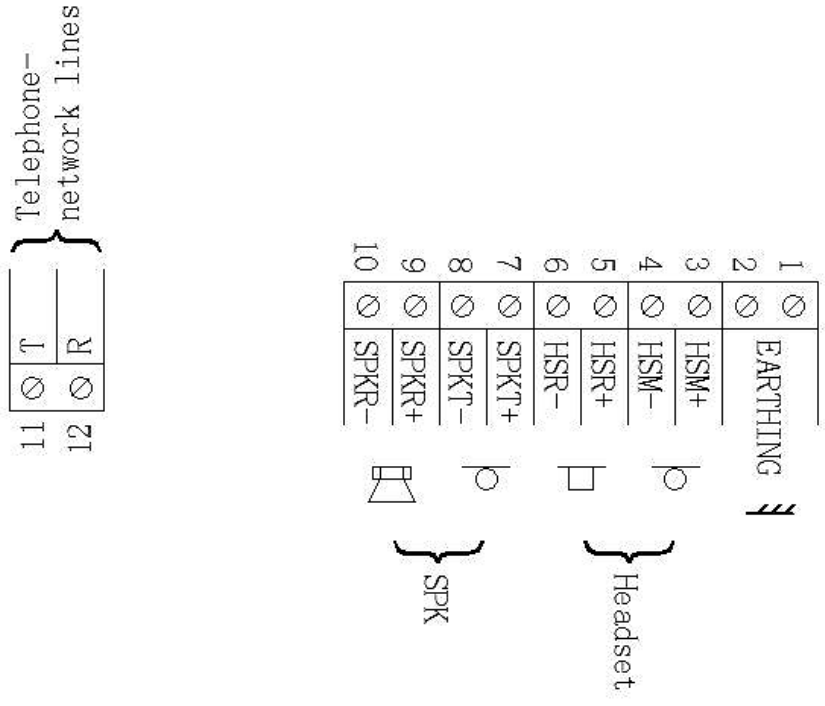
Loosen the cover screws and remove the upper cover from the telephone housing. Refer to the device overview drawings for cover screw locations.

Route the telephone cable through the cable gland and connect the conductors to terminals 11 and 12 in accordance with the wiring diagram.

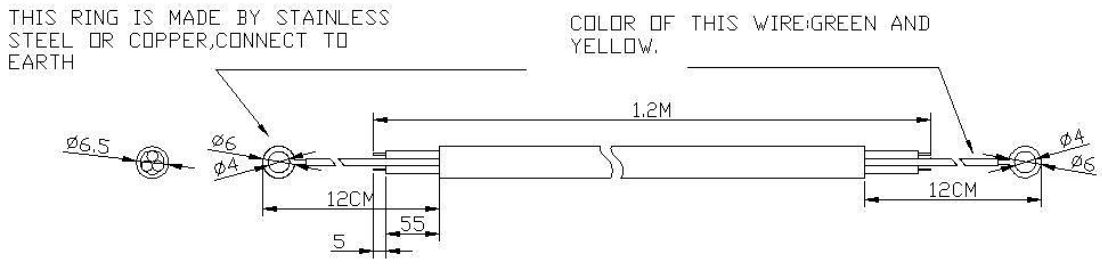
Use only cable with an outside jacket diameter of 5 to 9 mm (0.20 to 0.35 in.). Using cable outside this range may prevent the cable gland from sealing properly and may compromise the IP66 enclosure rating. After the cable is installed, tighten the cable gland cap securely.

Install four mounting screws with a head diameter of 10 to 13 mm (0.39 to 0.51 in.) through the mounting holes. Secure the lower telephone housing to the wall or approved mounting bracket.

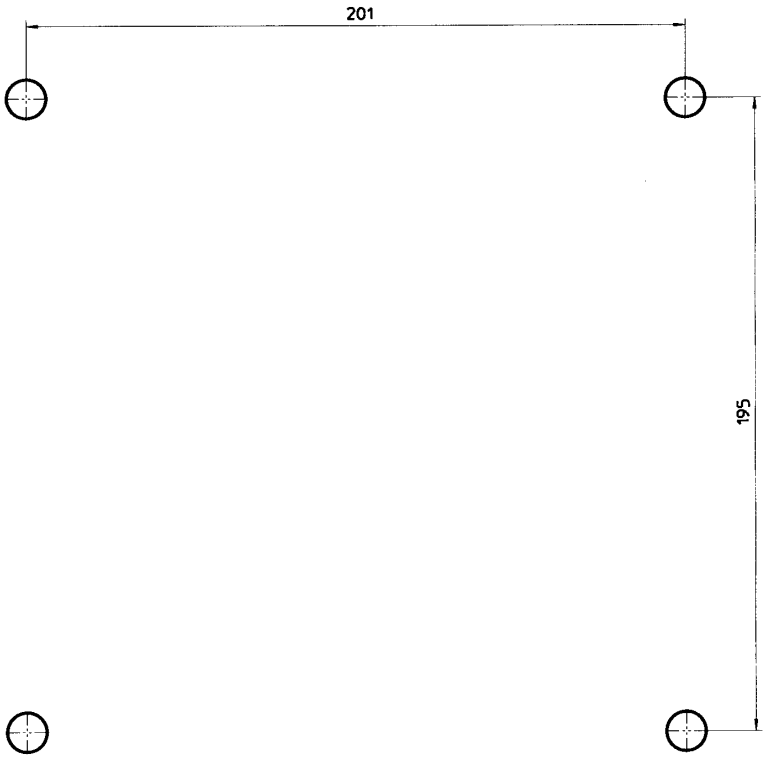
Connection Diagram



Telephone network cable Spec:



Drilling Diagram:



The drilled hole diameter depends on the mounting screw size and the type of supporting surface, such as steel, wood, concrete, or drywall. Select the appropriate drill bit and mounting hardware for the installation surface.

The maximum mounting screw diameter is 8 mm (0.31 in.).

Handset Mode

When you pick up the handset, you are in handset mode. Use + and − to adjust handset volume.

Hands-free Mode

Use the button to use hands-free mode. Use the same buttons as above to adjust volume.

Menu

Press the YES key to enter the menu. Display will show:

Use + and − to navigate options.

```
Main Menu
▼Telephone Book
ChangPhoneBook
Look/PIN
Settings
Languages
```

Telephone Book: For selecting saved number to dial. Press the YES key to dial the number.

ChangPhoneBook: For adding, deleting, or editing contacts.

**New Entry: New Contact
**Edit Entry: Edit Contact
**Delete All: Delete Contact

When editing a phonebook contact, use the number keys 2 through 9 to enter alphabetic characters.

Press 0 to enter a space. Press the C key to delete the last character entered.

Lock/Pin

HALF LOCK Only permits outgoing calls to local numbers.

TOTAL LOCK Can receive and dial emergency telephone numbers like 911, but cannot dial the 3 4 5 6 7 8 * # keys.

Change PIN: Set your password. PASSWORD:Input012345

Settings

Use the same keys as above to navigate and adjust settings. Save new settings with YES key. Exit Settings using the NO key.

Maintenance

The ATEX-HLPH is designed as a sealed hazardous-location telephone. There are no user-serviceable parts inside the telephone housing. Do not open, modify, drill, machine, repair, replace internal components, or remove the protective compound from the device.

Maintenance shall be limited to external inspection, cleaning, and verification of proper operation. Internal service or repair must be performed only by Larson Electronics or a Larson Electronics-authorized service provider. Unauthorized repair or modification may compromise the hazardous-location protection, enclosure rating, and safe operation of the telephone.

Maintenance activities shall be performed by qualified personnel in accordance with the facility's electrical maintenance program and applicable requirements of NFPA 70B, Standard for Electrical Equipment Maintenance.

Recommended maintenance checks include the following:

- Inspect the telephone housing for cracks, impact damage, corrosion, loose hardware, missing fasteners, or signs of tampering.
- Verify that the cover screws are installed and properly tightened.
- Inspect the cable gland, blanking plugs, seals, and cable entries for damage or looseness.
- Verify that all unused cable entries remain sealed with properly rated plugs.
- Confirm that the handset, cord, keypad, display window, and external surfaces are clean and free from damage.
- Test basic telephone operation, including incoming call ringing, handset audio, hands-free operation, keypad response, and display function.
- Verify that the unit remains securely mounted in the vertical operating position.
- Keep the exterior of the telephone clean and free from dust buildup, oil, grease, chemicals, or other contaminants that could affect safe operation.

Before performing any maintenance, follow the facility's lockout/tagout procedures and confirm that the area is safe for the work being performed. Do not open the telephone housing while the unit is energized or while an explosive gas, vapor, or combustible dust atmosphere may be present.

Use only a clean, damp cloth for exterior cleaning. Do not use abrasive cleaners, solvents, high-pressure water spray, or cleaning methods that could damage the housing, seals, keypad, display window, labels, or cable entries.

If damage, improper operation, missing parts, loose cable entries, compromised seals, or evidence of internal exposure is found, remove the telephone from service and contact Larson Electronics for assistance. Do not return the unit to service until it has been inspected and determined to be safe for use in the intended hazardous location.

THESE INSTRUCTIONS MAY NOT COVER ALL DETAILS OR VARIATIONS OF THIS PRODUCT FOR YOUR EQUIPMENT OR INSTALLATION REQUIREMENTS. SHOULD FURTHER INFORMATION NOT COVERED BY THESE INSTRUCTIONS BE REQUIRED, PLEASE CONTACT LARSON ELECTRONICS BY EMAIL AT SALES@LARSONELECTRONICS.COM OR BY PHONE AT 1-877-348-9680 FOR FURTHER ASSISTANCE.

PLEASE VISIT LARSONELECTRONICS.COM FOR **WARRANTY** AND **RETURN** INFORMATION.