50,512,1K,33K,83K Hz Multi Frequency Locator PL008M

Application:

the measurement of underground pipelines, cable positioning, buried depth of underground pipelines


Detail Spec

3.5 inch LCD display with backlight
Frequency: 50Hz 512Hz, 1 KHz, 33 KHz, 83 KHz
Passive frequency: 50Hz
High performance for detecting the position, path, depth and tube current of underground pipes and cables
Measurement of the depth of underground cable
Mearsurement of the currency of the underground cable
Mode: Valley mode, Peak mode, Wide mode, Peak arrow mode
1000 data of the same frequency can be saved
Working depth: 6 meters
Built-in rechargeable 7.4V Li-ion battery work for about 10 hours.
Packing Dimension: 65cm*40cm*20cm
Net weight: 2kg

*Patent Pending Design *

Project Application
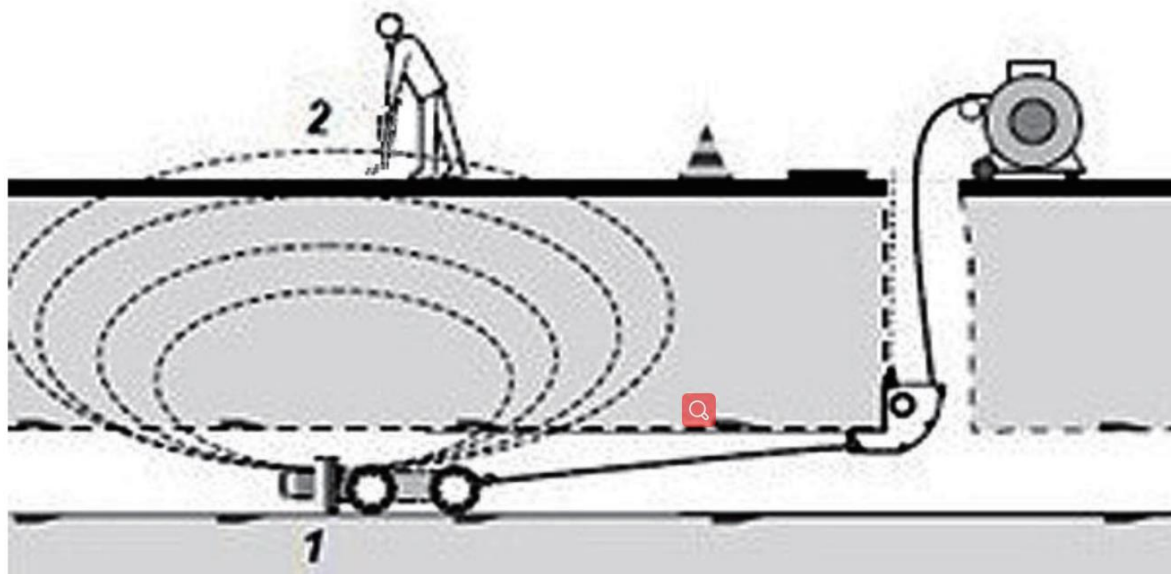
*Patent Pending Design *

Multi Frequency Locator
Manual Instruction
PL008M

Features

1. Multiple Functions

1) The receiver functions: detecting the position, path, depth and tube current of underground pipes and cables.

2) Left and right positioning arrows indicate the target pipeline position fast and accurately; front and rear arrows and dB value indicates the point and size of the coating damage.

3) Backlight suitable for urgent use in the nighttime.

4) Optional GPS geolocation with the automatic mapping of the pipelines.

5) Optional professional data analysis software with the automatic detection report.

6) Measuring the current of the pipeline and cable applied by the transmitter.

7) Multimeter function: measure the output voltage, line voltage, line current, impedance and power; Test the cable continuity and insulation quality before and after cable fault finding.

8) External induction clamp: suitable for testing the cable when they cannot be directly applied to the signal of the place.

2. High Location Accuracy

A variety of measurement modes for pipeline positioning (valley mode, peak mode, broad peak mode, peak arrow mode), can verify each other to ensure the accuracy of pipeline positioning.

1) Maximum value method: peak mode, broad peak mode and peak arrow mode are available to determine the horizontal component (H_x) or horizontal gradient (ΔH_x) changes, according to its maximum position to locate;

2) Minimum value method: use the valley mode by measuring the vertical component (H_z) changes according to its minimum position to locate.

3. Measuring the depth

A variety of methods can be used to verify each other.

1) double-level coil direct reading method;

2) single-level coil 80% method, 50% method;

3) 45 degrees method

4. Strong anti-interference ability

1) Many Observation Parameters: can measure horizontal component (H_x), vertical component (H_z) and horizontal gradient (ΔH_x).

2) Large transmission power: the transmitter output power reaches 10W and it could be continuously adjustable.

3) Multiple Working Frequency:

Receiver frequency FB-R2013A: 50Hz, 512Hz, 1 KHz, 33 KHz, 83 KHz

According to the target pipeline features (material, structure, depth, length, etc.) and the environment **to select the appropriate operating frequency.**

5. Easy Operation

1) Intuitive: use the graphical display to get the sustained and real-time display of various parameters in the detection process and signal strength.

2) Automatic: in the depth measurement, automatic change to the two-level antenna mode and automatic adjustment of the receiver sensitivity so that the measurement signal achieves the best result. The mode returns to the original one after the depth measurement.

6. Long continuous working time with the low cost

Both the transmitter and the receiver are equipped with a large capacity lithium battery pack. A fully recharge can last a whole working day outdoors. The recharging function has greatly reduced the detection costs.

7. AC and DC

Under normal circumstances, if the battery is sufficient, please use the instrument with built-in battery pack power supply. If the battery power is low, and the detection task is not completed, you can use the power adapter to continue the detection without having to recharge the battery.

1. PLM008　Receiver/Locator：

The receiver is used for the measurement of underground pipelines, cable positioning, buried depth of underground pipelines, and tube current measurements. A variety of frequency and mode of operation to meet a variety of environments and a variety of pipeline detection needs.

1.1 Functions：

Turn on/off (1)

Press the key to start the boot or to shut down. When the receiver is turned on, the receiver automatically shuts down if no function key is pressed during the set auto power off time. If any function key is pressed, the receiver will reset the shutdown time.

f button (2)

Frequency selection key: according to the frequency of the transmitter to select the corresponding detection frequency, selectable frequency including radio, 50Hz、512Hz、1KHz、33KHz、83KHz.

Peak Mode

Valley Mode

Wide Mode

Peak Arrow

Sonde mode

External Signal

Mode (3)

The mode key is used to select the receiver's operating mode for precise positioning of the pipeline. The positioning process is usually measured by the peak method.

Including:

Valley mode
Peak mode
Wide mode
Peak arrow mode

Sonde mode
Power mode: 50Hz power cable can be detected
When there is an external A-frame, you can also select the external signal mode. (for FB-R2013E)
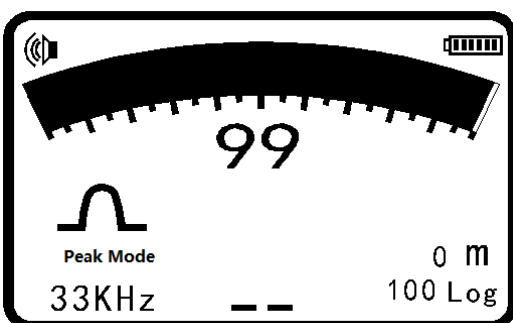
(4)

To increase, please press

To decrease, please press .

In the adjustment, the number is shown in the middle of the display window.

Press ![+] or ![−] for 3 seconds to start the function automatically. The number turns into flashing cursor (as shown on the left), the instrument automatically adjusts the Signal strength to about 70% of full scale. The relative intensity of the signal is indicated by the bar graph (8) above the display window and the number (9) below the graph.
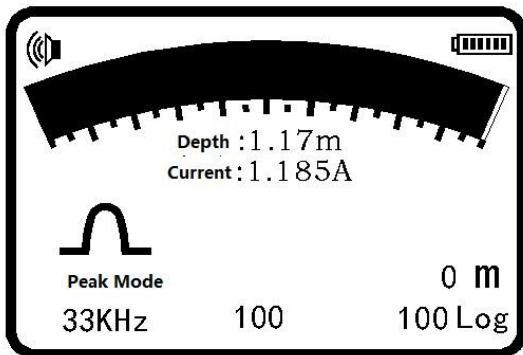
Depth/Current（5）![i]

![i] key is used to measure the depth of the buried pipeline, meanwhile it could measure the current value in the target line. In the current measurement process, regardless of the original use of which positioning mode, the system automatically switches to the peak mode.

The depth measurement unit can be selected by metric or imperial from the menu.

Metric Units: cm when the depth of the pipeline is less than 1 meter.

When the depth is more than 1 meter, the depth display unit is m.

Inch unit: feet.

Current unit: When the current is more than 1A, the display current unit is A, when the current is less than 1A, the display current unit is mA.

Note:

1, in order to measure the exact depth of the depth, the receiver must be maintained in the vertical position of the work.

2, in order to improve the accuracy of the depth of the measurement, it is not suggested to use the valley mode, the wide-peak mode is recommended for pipeline depth measurement.

Backlight（6）![backlight icon]

Press the backlight key, the backlight of display will turn on and keep a preset time, and then press the backlight button, backlight is off.

The backlight time can be set via the backlight menu.

Data Storage：

Measured current and depth data storage method: After measuring the current value, the depth and current value are indicated in the middle of display. If you need to store data, press [+] button，the detection value is stored in the instrument's memory, and the lower right corner of the display indicates how much serial number (12) is stored. If storage is not needed, press [i] button to restore the locating mode.

Browsing Data：After pressing [i] button and [+] button together for 3 seconds，it enters the interface including frequency, serial number, distance, depth and current, etc. Press [+] and [−] button to visit the previous and next page. Press [i] again to exit. If no key is pressed for 20 seconds, it restores the locating mode.

Note: Only 1000 data of the same frequency can be saved. After switching to the different detection frequencies, if you need to store the data, you must delete the data of the original frequencies that have been stored before storing the new frequency data.

For example: the instrument has been stored 128Hz data group 100, now it is changed to the measurement frequency of 512Hz and needs to store 512Hz data to complete the measurement.，Press [+] to store，Reminder: "128Hz has been stored 100 data, whether to delete", if you need to delete , press [−] for 5 seconds to delete to store 512HZ data.

1.2 Receiver Display

Battery Indicators (7)

The upper right corner of the display has a battery symbol that indicates how much battery power is. When a flashing battery symbol is displayed indicating that the built-in battery of the instrument is not enough for work and needs to be recharged. Generally, the machine uses a high-performance lithium battery pack, fully recharged for the receiver to work more than 10 hours.

Receiver recharging: The charger's circular is connected to the receiver's charging jack, the other end is plugged into the 110V/220V power supply, charger indicator light is red during charging, and it will turn green after full charged.

Signal Strength（8、9）

The bar graph above the display window indicates the relative strength of the signal. The number indicates the signal strength and it can be adjusted by pressing [+] [−]. Display the lower side of the window with the number 0-100 to show the receiver's gain size. When the signal source is strong, it is necessary to decrease. When the signal source is weak, it needs to increase. When in the normal detection, it is necessary to adjust the signal strength to about 70% of the full scale.

Display（10）

Display a variety of measurement parameters and measurement results show.

0 m
100Log

Point distance indication（11）

When the GPS is successfully connected and the satellite signal is received, the detection data saves the distance between the two measuring points and displays it in real time. If the GPS module is not configured and poi nt distance will display 0m.

Data Storage Log（12）

Once the measured data is stored, the number will be automatically incremented by 1. 100 Log means that 100 groups of data has been saved and it could store 0-1000 data.

Speaker Indicator（13）

The loudspeaker indicator indicates the level of the speaker sound, the sound mode has high, medium, low and off. When the speaker sound is off, the speaker indicator is not displayed. The speaker volume is set in the menu settings。

Locating Mode（14）

Press ⬅ button to select modes（Valley mode, peak mode, broad peak mode, peak arrow mode and sonde mode），and the mode is displayed.

Frequency Indicator（15）

Use the frequency key to select the desired detection frequency and the frequency will be displayed.

Increase/Decrease Indicator（16）

The number 0-100 in the lower side of the display shows the receiver's gain size. When the signal source is too strong, it is necessary to decrease. When the signal source is too weak, it needs to increase. During the detection, it is necessary to adjust the signal strength to about 70% of the full scale.

Left/Right Arrow Indicator

When using the valley mode or the peak arrow mode to detect the pipeline position, the left and right arrows could help to trace the pipeline position quickly. When the instrument deviates from the left side of the pipeline, the right arrow appears. When the instrument deviates from the right side of the pipeline, the left arrow appears.
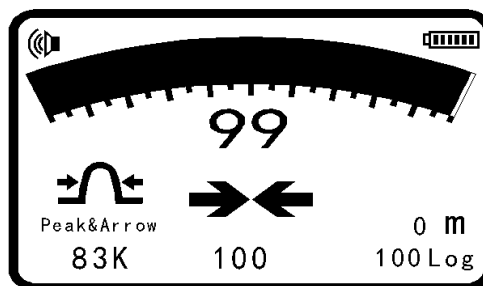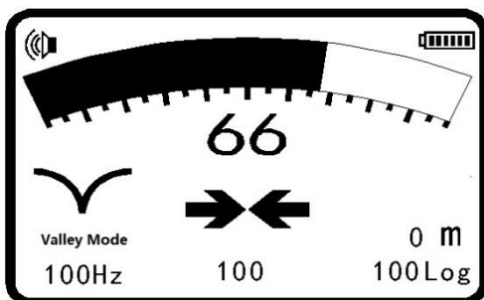
Coating Leaking Point Indicator

When testing damage points or cable failure points, the arrows will help to indicate the location of the position on coating (as shown below). When the forward arrow appears, the point of failure is in front of the A-frame. When the rear arrow appears, the point of failure is behind the A-frame.
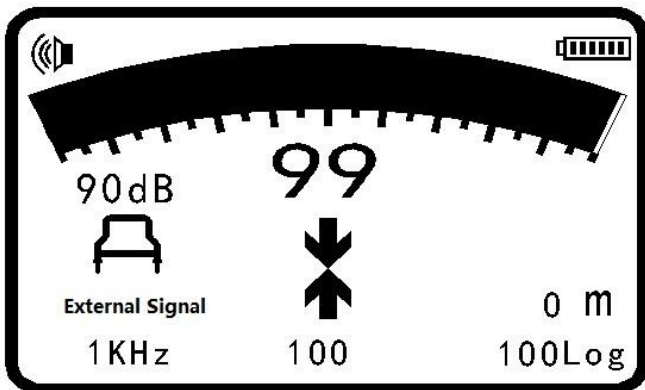
A frame access status

If A frame is connected, press button to select the external signal mode. A frame is used to detect the damage point of the coating and shows the size of the damage point in dB.

Other Locating Method：
50Hz for power line signal detection, CPS signal (cathodic protection current signal), and radio signal detection.

1.3 Receiver Setting

Press [icon: *i*] key for 3 seconds to enter the main menu. Press [icon: +] or [icon: −] to move the cursor. Press [icon: M] to enter the submenu or change the setting. Press [icon: *i*] to return the main menu.

Menu	1
Language	Chinese
Contrast control	Entry
British—Metric	meter
Speaker Volume	Low

English Menu 1

Menu	2
Backlight	15S
Automatic Shut	10min
Bluetooth Pairing	Entry
Search For Bluetooth	Using

English Menu 2

Language Setting：Move the cursor to Language and Press [icon: M] **to change the language between Chinese and English.**

Contrast Control: Move [icon: +] [icon: −] to Contrast Control and press [icon: M] to adjust the contrast by pressing [icon: +] or [icon: −]. Press [icon: *i*] to return the main menu.
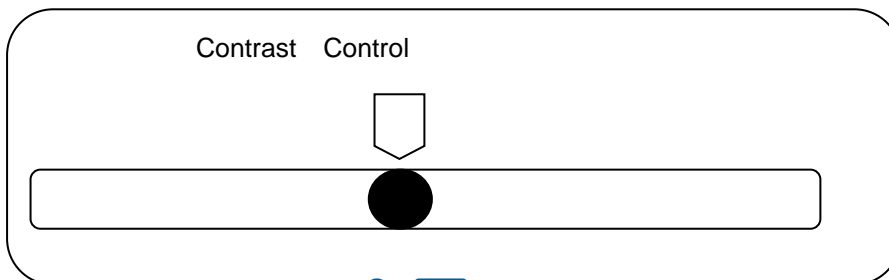
Contrast   Control

Measurement Unit Setting：Press [icon: +] [icon: −] to move the cursor to British-Metric setting and press [icon: M] to set Footage or Metric.

```
            Menu              1

    Language              Chinese

    Contrast control       Entry

    British—Metric         meter

    Speaker Volume         Low
```

```
            Menu              1

    Language              Chinese

    Contrast control       Entry

    British—Metric         Feet

    Speaker Volume         Low
```

Speaker Setting：Press ▲ ▼ to move the cursor to Speaker volume setting. Press to set the volume.

```
            Menu              1

    Language              Chinese

    Contrast control       Entry


    British—Metric         Feet

    Speaker Volume         Low
```

Backlighting Setting：Press ▲ ▼ to move the cursor to the backlight time setting. Press to set the time ： 5S→15S→30S→1m→often lighting→Off→5S。

```
            Menu              2

                             9
```

Backlight	15S
Automatic Shut	10min
Bluetooth Pairing	Entry
Search For Bluetooth	Using

Automatic Off Setting：Press ▲ ▼ to move the cursor to automatic off setting. Press to set the time： 30 minutes→10 minutes→ 5 minutes→Never→30 minutes.

```
           Menu              2

  Backlight                     15S

  Automatic Shut                10min

  Bluetooth Pairing             Entry

  Search For Bluetooth          Using
```

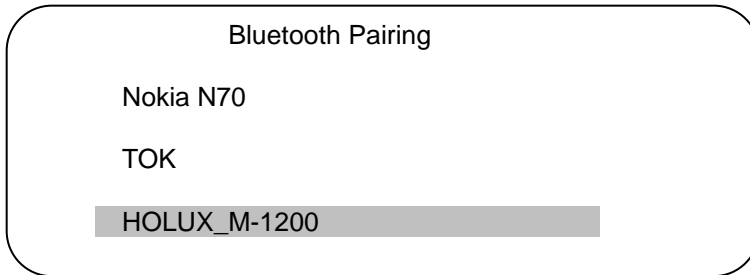**Bluetooth**：Press ▲ ▼ to move the cursor to set the Bluetooth paring. Press to enter the Bluetooth pairing.

```
           Menu              2

  Backlight                     15S

  Automatic Shut                10min

  Bluetooth Pairing             Entry

  Search For Bluetooth          Using
```

```
     Bluetooth Pairing



   Searching……
```

Bluetooth Pairing：Press [+] [−] to move the cursor to "HOLUX_M-1200", Press [↵] to confirm. Receiver is paired with GPS Bluetooth module and the icon in the display is lighted. The receiver can receive GPS data by the Bluetooth. Press [i] to return to the main menu.

```
          Bluetooth Pairing

    Nokia N70

    TOK

     HOLUX_M-1200
```

If there is no Bluetooth searched, it will display NO Bluetooth Equipment Available and press [i] to return to the main menu.

```
          Bluetooth Pairing

Without Bluetooth equipment available


```
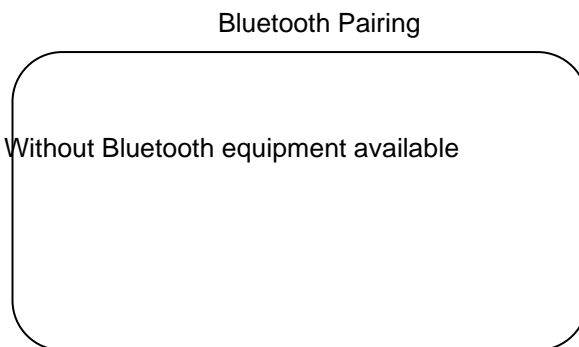
Bluetooth ON：Press [+] [−] to move the cursor to Search for Bluetooth menu. Press [↵] to turn on/off the Bluetooth. （FB-R2013A/2013E is not equipped with GPS Bluetooth and the setting is forbidden.）

```
             Menu            2

    Backlight               15S

    Automatic Shut          10min

    Bluetooth Pairing       Entry

    Search For Bluetooth    Using
```
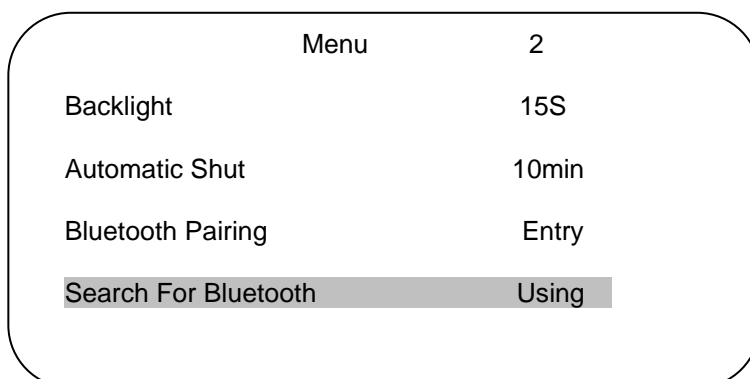
```
               Menu              2

Backlight                      15S

Automatic Shut                 10min

Bluetooth Pairing              Entry

Search For Bluetooth          Forbidden
```