Standard equipment is listed below and pictured as above.

The VM-585 is supplied with 1 watt transmitter with both direct metal detect mode), 60Hz, 512Hz, 8 kHz, 83 kHz.

1.0 Introduction

2.1 Receiver Display

• User guide
• Carrying bag
• 1 watt transmitter
• VM-585 pipe and cable locator

2.2 Receiver Operational Controls

Sensor Control
Reduce sensitivity, direct or on auto scale down to 5% full scale. When in frequency select menu this button will scroll to lower available frequencies.

Sensor Control
Increase sensitivity, direct or on auto scale up to 95% full scale. When in frequency select menu this button will scroll to higher available frequencies.

Depth Measurement
Selects metal to locate, range from 0 to 100 feet or in line/locate mode, range from 0 to 300 feet.

2.3 Transmitter Operational Controls

Sensitivity Control
Increment sensitivity up, or auto scale up to 95% full scale. When in frequency select menu this button to scroll backwards through available frequencies.

Sensitivity Control
Decrement sensitivity, direct or on auto scale down to 5% full scale. When in frequency select menu this button to scroll forward through available frequencies.

Frequency Selected Indicators
In ferrous metal detect mode, short press to initiate scan through the available frequencies.

Speaker
In line/locate mode, short press to initiate search, long press to enter frequency select menu.

Power ON Indicator
Indicates polarity of field (+ or -)

Auto sensitivity set. Sets sensitivity to 50% of full scale. This is useful when finding the signal can be very high or low.

Power signal warning. Could be a live cable.

3.1 Power Mode Operation

Switch on the unit by pressing the ON/OFF pushbutton. A few seconds to switch on.

Switch on the transmitter and set the output to low output. Only the low frequency is available in induction mode.

3.2 Locating a Cable in the Power (60Hz) Mode

1. Hold the locator in line with the possible route of the cable.

2. Hold the locator in front of you in the orientation shown below.

3.3 Depth Measurements

Start locating the line a few paces from the transmitter. Starting too close will be difficult as the signal radiated through the air from the transmitter is not large enough to detect. The transmitter is attached to the cable or pipe.

4. To confirm the direction of the cable, rotate the locator until the largest signal is detected. The direction of the cable is then directly ahead.

5. Continue to locate the cable along the route.

6. Depth measurements are not possible in the power (60Hz) mode. If exposed by accident it will cause a potential electric shock.

7. Battery Cover Retaining Screws

8. Battery Cover Retaining Screw

9. Battery Housing Cover

4.1 Direct Connection Mode

Possible to connect to de-energized live or dead cables. It is possible to connect to the conductor. Only make a connection to de-energized live. Always dig with caution.

5.7 Continue to locate the cable along the route.

WARNING

The depth measurement is an approximation. Depth indications can be effected by field conditions. Situations where services can be confused in depth readings and will jump insulation joints on pipes but the diode connection that is always used in most utility networks. The lower frequency is better for tracing a particular utility as it is more likely to lead to the utility line the transmitter is attached to. If it is not possible to detect a stable reading.

The same applies to testing the signal level. A short press on the ON/OFF pushbutton will alter the output from low to high, always start with the low setting and switch to high if it is not possible to detect a reading on the transmitter. Using the low setting and switching to high will improve the grounding or improve the connection to the pipe or utility. There should be a great change in signal received. If not it is different from what is expected read the data as ungrounded.

2.3 Active Cable and Pipe Locating

Detecting a cable or pipe can be achieved by applying a locate tone in a cable or pipe from a transmitter. This is called active location.

The locate tone can be applied by either:

• Direct Mode

• Induction Mode

3.4 Direct Connection Mode

This method involves making a direct connection to the Cable or Pipe.

WARNING

Do NOT attempt to make a connection to a live cable or pipe. Only make a connection to de-energized live or dead cables. It is possible to connect to the conductor. Only make a connection to de-energized live. Always dig with caution.

There are three main methods of connecting the cable or pipe.

To trace the cable use the same method as described in the Locating a Cable in the Power (60Hz) Mode Section.

3.5 Induction Mode

The induction mode is useful in situations where access to a cable or pipe is not possible. Remove the direct connection leads that transmit the locate tone to the cable or pipe. This eliminates the direct connection lead and removes the auto selection of the target cable as described below.

3.6 Induction Mode

The induction mode is useful in situations where access to a cable or pipe is not possible. Remove the direct connection leads that transmit the locate tone to the cable or pipe. This eliminates the direct connection lead and removes the auto selection of the target cable as described below.

3.4 30 paces minimum

Now press the depth measurement/frequency selection button. There will be a short delay before a depth estimate will be displayed.

NOTE

The depth measurement is an approximation. Depth indications can be affected by field conditions. Situations where services can be confused in depth readings and will jump insulation joints on pipes but the diode connection that is always used in most utility networks. The lower frequency is better for tracing a particular utility as it is more likely to lead to the utility line the transmitter is attached to. If it is not possible to detect a stable reading.
3.7 Signal Clamp Mode

1. Connect the signal clamp to the transmitter.
2. To replace the batteries unscrew the end cap on the handle end of the transmitter. Remove the battery cover and take out the battery if necessary. (See battery replacement section below)
3. When a ferrous object is approached the bar graph will expand and the pitch from the speaker will increase. (Set the speaker volume with a volume control of the ON/OFF pushbutton.)
4. Hold the unit exactly vertical to pinpoint the highest pitch and keeping the tip an even and close distance from the ground. The shape of response depends how big and how deep the object, target. With a little experimentation you will become familiar with the pitch from the speaker will increase. (Set the speaker volume with a volume control of the ON/OFF pushbutton.)

3.8 LPC Separation Filter

The VM-585 Ferrous Metal Detector locates only those ferrous metals that attract the earth's magnetic fields, such as iron, nickel, etc. Utility objects that contain these metals would include PK nails, large iron tanks. It also locates objects that generate their own magnetic fields.

4.0 Accessories

4.1 Signal Clamp Mode

1. Plug in the LPC to the mains socket and then switch back on.
2. Make sure the two halves of the clamp close properly.
3. The VM-585 makes it possible to connect to voltages between 100V AC and 250V AC.
4. Make sure the two halves of the clamp close properly.
5. When a ferrous object is approached the bar graph will expand and the pitch from the speaker will increase. (Set the speaker volume with a volume control of the ON/OFF pushbutton.)
6. Hold the unit exactly vertical to pinpoint the highest pitch and keeping the tip an even and close distance from the ground. The shape of response depends how big and how deep the object, target. With a little experimentation you will become familiar with the pitch from the speaker will increase. (Set the speaker volume with a volume control of the ON/OFF pushbutton.)

4.2 Operation

The VM-585 Ferrous Metal Detector locates only those ferrous metals that attract the earth's magnetic fields, such as iron, nickel, etc. Utility objects that contain these metals would include PK nails, large iron tanks. It also locates objects that generate their own magnetic fields.

5.0 Changing Batteries

1. A low battery is indicated by a flashing ON/OFF led.
2. To replace the batteries unscrew the end cap on the handle end of the transmitter. Remove the battery cover and take out the battery if necessary. (See battery replacement section below)
3. Always replace all the batteries, mixing batteries with different chemistries may cause other batteries to self-discharge which may then fail or overheat.
4. Replace battery and hand tighten the retaining screws.

6.0 Service Centre Information

If the equipment does not function correctly always replace the batteries as described above. If the equipment still malfunctions, contact the Customer Service department at VIVAX-Metrotech.

7.0 EMC Compliance

Changes or modifications to this equipment not expressly approved by the party responsible for compliance could invalidate the user’s authority to operate this equipment.

8.0 Maintenance

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. This equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, or by contacting the customer service department at VIVAX-Metrotech.

9.0 Troubleshooting

1. If a transmitter ground connection is not required at both ends of the cable.
2. Signal quality will be better if there is a ground at both ends of the cable.