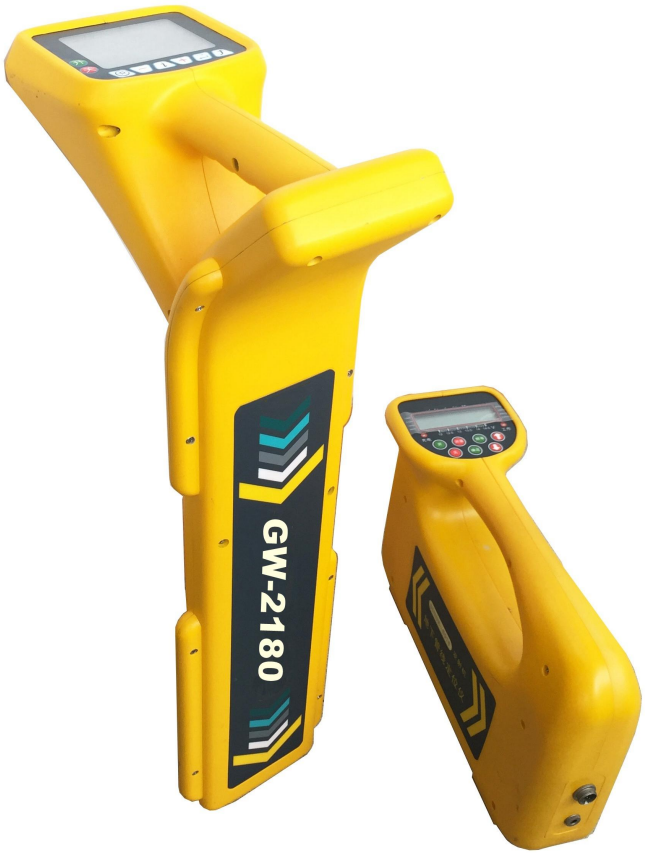
TIANJIN GREWIN TECHNOLOGY CO.,LTD



GW-2180 pipeline detector

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Introduction

Underground pipeline is an important part of urban infrastructure, urban underground pipelines, including water supply, drainage, gas, heat, telecommunications, electricity, industrial pipelines and other broad categories,Is to play a city function, the material basisto ensure that the city's economic and social health, coordinated development, known as the city's "blood vessels" and "nerves".At the same time, in the process of urban planning, design, construction and management, if there is no complete and accurate underground pipeline information, it will become "blind", and even cause significant losses. In recent years, with the accelerated urbanization process and the rapid development of urban construction, all over the city has increased the underground space, especially the underground pipeline development and utilization, to strengthen the underground pipeline file management.However, due to some underground pipeline construction units, pipeline management units, etc., can not be timely to the urban construction archives management department to send underground pipeline files, resulting in underground pipeline archives information centralized management and query service work can not meet the needs of urban construction and development.Underground pipeline in the convenience of urban life at the same time, but also due to improper construction, disrepair and so there are a lot of security risks, may cause huge losses of personnel and property, and even become the local residents of the "deadline."

November 22, 2013, Shandong Qingdao Sinopec Donghuang oil pipeline leaking crude oil into the municipal drainage culverts, in the formation of confined space within the culvert accumulation of oil and gas explosion occurred. The accident caused 62 people were killed, 136 people were injured, direct economic losses of 751.72 million yuan.

In April 2014, PetroChina Lanzhou Petrochemical Company, a pipeline of oil spills polluted the water supply enterprises of the trench, Veolia Water Group found that the factory benzene content of up to 118 micrograms / liter to 200 micrograms / liter, far beyond National limit of 10 micrograms / liter, causing the local public to crazy buy mineral water.

Statistics show that from 2009 to 2013, the country directly due to underground pipeline accidents and accidents involving a total of 27 cases, the death toll of 117 people. In summary, the underground pipeline detection and census work is particularly important, so take preventive measures, the accident hidden in the bud.

GW-2180 underground pipeline detector in the case of non-excavation, the underground pipeline, cable, cable for accurate positioning and buried depth

measurement, accurate search underground pipe outside the coating damage point, buried cable fault point location.The instrument combines ultra-narrowband filter, Bluetooth wireless communication, GPS positioning, professional data analysis software automatically map, test report automatically generated the most advanced technology, with superior anti-jamming capability, precise positioning and sounding, suitable for underground Metal pipeline detection and inspection line, pipeline management and maintenance, municipal planning and construction, power supply and other departments of the pipeline inspection, pipeline maintenance units is one of the necessary equipment.

1、GW-2180 pipeline detector features

2、

(1) multi-function

1、 Transmitter function: With the induction method, direct method and clamp method three signal application mode, suitable for different occasions.

2 、 Receiver function: used for underground pipes, cable position, direction, depth and tube current measurement.

3 、 The left and right positioning arrows indicate the target pipeline position, positioning fast and accurate; front and rear arrows and dB values indicate the location and size of the damage points of the coating.

4、With backlight function, suitable for night use.

5、GPS geolocation function, pipeline to automatic mapping.

6、 Professional data analysis software, automatic detection report generated.

7、GW-2180 receiver unique features: for failure (pipe failure is the outer coating damage, cable failure is the outer sheath damage) positioning, detection of underground pipeline insulation damage.

8、Current measurement: Measure the current applied by the transmitter to the pipe under test.

9、 Multimeter function: measurable output voltage, line voltage, line current, impedance and power. Test the cable continuity and insulation quality before and after cable fault finding.

10、External induction clamp: suitable for testing the cable can not be directly applied to the signal of the place.

(2)High positioning 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, peak arrow mode can be used to determine the horizontal component (H_X) or horizontal gradient (ΔH_X) changes, according to its maximum position to locate;

2 、 Minimal method: the use of the valley model, by measuring the vertical component (H_Z) changes, according to its minimum position to locate.

(3)Multi-Measuring depth method:

With a variety of sounding methods can be arbitrarily optional, and can verify each other.

1、Double - level coil direct reading method;

2、Single - level coil 80% method, 50% method;

3、45 degree method.

(4)Strong anti-interference

1、Observed parameters: both measured horizontal component (H_X), vertical component (H_Z) and can measure the level gradient (ΔH_X).

2 、 Transmit power: the transmitter output power of 10W and continuously adjustable, according to the need to choose.

3、 Working frequency:

Transmitter frequency:128Hz、512Hz、1KHz、2KHz、8KHz、33KHz、65KHz、83KHz。

Receiver frequency:radio、50Hz、100Hz、128Hz、512Hz、1KHz、2KHz、8KHz、33KHz、65KHz、83KHz。

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

(5) easy to operate

1 、 **Intuitive: the use of graphical display, can continue, real-time display of various parameters and signal strength detection process.**

2、**Auto: Automatically switches to dual-level antenna mode when measuring depth and automatically adjusts the receiver sensitivity to optimize the measurement signal and automatically recovers to the pre-sounding mode.**

(6)Continuous working time is long, the use of low cost

The transmitter is equipped with a large capacity lithium battery pack, a charge, to meet the field to detect a working day power supply needs, and can be recycled, greatly reducing the detection costs.

（7）Transmitter AC and DC

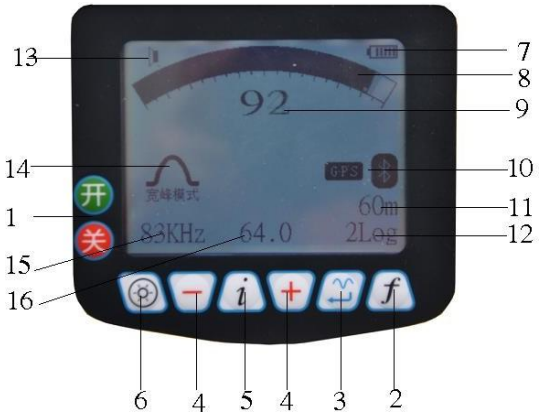
Under normal circumstances, if the transmitter battery is sufficient, use the instrument built-in battery pack power supply. If you use the process, the transmitter battery power is low, but the detection task is not completed, you can directly external dedicated power adapter, the instrument can be used normally, without having to wait for the instrument to re-use.

2、 GW-2180 Pipeline Detector Components and Structural Functions

（1）Receiver：

The GW-2180 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.

The GW-2180 receiver is used to locate the target line.



2.1 Receiver function：

on-off key(1)

To press the 开switch on, press the 关turn off。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 key*(2)**

Frequency selection key: Select the corresponding detection frequency according to the frequency of the

峰值模式

谷值模式

宽峰模式

峰值箭头

transmitter. The frequency of choice includes radio、 50Hz、 100Hz、 128Hz、 512Hz、1KHz、2KHz、8KHz、33KHz、65KHz、 83KHz。

Instrument models are different, the frequency configuration is not the same, the specific frequency according to the manufacturer's product specifications to determine.

Mode key(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.

Mapping modes include：