Holiday Detector

Model EPT/AC-30

High Voltage Coating Test Instrument

Brief Description

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1- Theory of operation

Pipelines and structures that must be protected have to be insulated from the ground by applying coating around the pipeline. This coating must be tested carefully with the equipment is name holiday detector. If find any hole it must be repaired before buried the pipeline.

The principal of this test is base a high voltage (5-30 KV) that applies to the coating. If there is any hole in the coating in the area, the equipment will be sparked and an alarm will be heard the same time. The Inspector can see the spark and hear the alarm.

2- Accessories:

1- Battery Charger: To charge the battery you have to plug to the charger Jack in the unit. The red led in the unit must turn ON. It takes 8-12 hours to Battery charge completely. When the battery is charging do not turn ON the unit.
2- Ground Wire: to connect to the unit and other side must be in the soil or direct connect to the structure.
3- Wand, and High voltage cable, Spring
4- Manual Instruction

3- Warning:

This unit provides High voltage that may it is dangerous to human if it touched. Although the current is very low, however; and it will cause a huge shock. If some one has heart problem he or she is not allowed to use this equipment.

4-Special information the EPT/AC- 30

Variable Output voltage: the output voltage can be changed by a 10 turn potentiometer form 3 up to 30 KV. You can select any voltage between 3- 30 kilo volt.

2- Output Digital voltmeter: as you change the output voltage you can see your output voltage in the Digital voltmeter. It is more convenience to see and adjust the output voltage.

3- Variable Sensitivity: the sensitivity can be changed from low to high by a rotary switch in clockwise direction. You can work in dry or humid condition.

In wet condition the sensitivity must be selected so (from low to high) it does not false alarm. In dry condition the sensitivity must put on the high. Sensitivity start form position 1 and it will be the highest on the position 10.

4- Heavy duty and durable case:
The pelican case with a water proof lid can protect the unit from rain and mixture.
A carrying strap can be connected to the case for more convenience.

5- Low consumption current: only one time charging the Battery, it will work a few days without need s to charge again.

5- Getting Started

Connect the Ground wire to the unit. Turn it ON and select your desired voltage.
Connect your spring around the pipe and lock it in the wand electrode. Then connect the high voltage cable Plug to the unit.
A good ground return system will always give the best and most reliable inspection.
The structure to be inspected must be grounded to earth at some point.
If individual joints of pipe are to be inspected which are not electrically connected, each joint must be grounded.
Speed of the spring travel over the inspection surface should be moderated moving the electrode at an excessive speed can result in a faulty inspection.

Occasional checks of the Detector can be made if no holidays are being found. Move the inspection electrode to the coating's edge (where the bare conductive surface is.) note that spark and signal should both occur.

If the signal does not sound when the spark jumps, the "Ground return" resistance is exceptionally high. (Example every dry soil or very large diameter pipe) To improve the "Ground" make a direct connection between the structure under inspection and the detector's ground wire.

5- Instrument servicing Instructions

Keep instrument clean and dry. Clean instrument case with soft cloth dampened with kerosene, then wipe dry. Do not use solvents such as lacquer thinners, etc.

For low output voltage:

a. Check the output voltage of Digital voltmeter and adjust with the output potentiometer.
b. Check the battery weak led indicator
c. Check for parted conductor in Wand and Ground wire.

No output voltage:

a- check the battery weak Led indicator
b- Check the fuse located on the top of the equipment. The fuse is 3Amp fuse.
c- Check Battery leads and the power switch for open circuit.

False signal indication

a. Adjust 10- position rotary switch sensitivity step by step to eliminate the false signal indication.
b. Check for parted conductor in wand and ground Wire.

No signal with spark Discharge:

a. Check position of signal sensitivity switch
b. Check the battery indicator

6- Battery Charging Instructions:

Caution: Holiday Detector “ON-OFF switch must be in “OFF” position while charging Battery. Use only Battery charger provided.

Plug charger in the instrument and Plug AC power cord to the outlet. Charge the Battery for 12 Hours. When the Battery is being charged the battery, a led indicator is on to show the AC power is in the unit.

The Battery is 6 Volt 7.2 Amp lead acid Battery and must be charged before discharge completely.