

HIGH VOLTAGE PROXIMITY DETECTOR

The HVP 275 is a high voltage proximity detector. It has eight voltage detection settings from 240Vac to 275kVac. The HVP 275 consists of an internal pickup sensor plate, a sensitivity selector, a visual and a sound annunciator. With the HVP 275, *physical contact with electrical conductors is not necessary* when testing for live lines. This tester works by *proximity*.

Its sensor senses the radiated field which surrounds live conductors. Radiated field strength increases with voltage and decreases quickly with distance or earth shielding. The radiated field from a cable of closely bunched conductors supplied by three phase power tends to cancel (See "Limitations of use" paragraph). Detecting distance of a 250Vac single live wire is approximately 10cm. With a bunched neutral and earth cable, as in a flexible cable, the distance is reduced to 5cm.

Some of the typical uses are : identify and check live cables; find fault in flexible cables; check earth equipment; service neon lightning; trace live wires; check high frequency radiation; detect residual or induced voltages. For example, faults in damaged flexible cables are found by applying low voltage to each conductor. Earthing the remainder and moving the tester along the cable until the change in condition is obtained. (Flexible cables which are used in mining and building industries, are readily repairable when the break in the cable is located.)

When testing for high voltage, the rotary switch (attenuator) is used to identify and differentiate various HV live cables. *The tester must be used in conjunction with a long and insulating rod when measuring high voltage (kV).* However, the HVP275 is a non-contact tester and it is advised that the tester should never come into contact with cables (kV) as this tester is merely a non-contact AC proximity tester.

Checking or proofing the tester is easy. Switch the sensitivity to 240V and place the dome against a low voltage live conductor or rub the dome with a cloth or against an item of clothing as this generates a static DC which triggers the detection of circuit. The light and beeper should go "on" as if a live wire is being



- Sealed by "O" rings
- 8 voltage settings:
240Vac, 2kV, 6kV, 11kV, 22kV, 33kV, 132kV, and 275kV
- High bright LEDs visual indication
- Sound indication
- Easy-to-proof method
- Self-test selection
- Use 3 x 1.5V "C" batteries
- High impact nylon casing
- Non-contact work by proximity
- Compatible with most link sticks
- Light weight, robust, & compact
- Suitable for indoor and outdoor use
- Detect low voltage on any systems
- Easy access to batteries
- No special parts needed
- Three-year warranty
- Simple and efficient to use

HVP-275 - Designed for Professionals

approached. Approaching the dome near a computer screen or a TV screen should also trigger the tester while on the 240V selection. The power consumption of the HVP 275 is very low, and the tester should always be tested as described above before using it.h

Expected test results (laboratory testing) :

| <u>Range</u> | <u>Operated from</u> |
|--------------|---|
| 240V | Variable from 80V or depending on the type of source |
| 2kV | 250V |
| 6kV | 500V |
| 11kV | 1000V |
| 22kV | 1500V |
| 33kV | 4000V |
| 132kV | 8000V |
| 275kV | 22kV |

Typical observation of test results made in the field :

| <u>Range</u> | <u>Min. Detection Voltage (MDV)</u> | <u>MDV as % of Line Voltage</u> |
|--------------|-------------------------------------|---------------------------------|
| 11kV | 1kV | 9.1% |
| 22kV | 2kV | 9.1% |
| 33kV | 3.1kV | 9.4% |
| 132kV | 12.5kV | 9.5% |
| 275kV | 22.5kV | 8.2% |

Limitations of use :

It is recommended that the HVP 275 is not used in HV yards of mixed voltages. In the presence of mixed voltages, the tester can become unreliable.

Problems can arise when the tertiary circuit of a 275/133/11kV transformer is tested. The electric field of the HV and MV bus bars can trigger the detector when it is about 3m above the ground. This is common with most of the electric field voltage detectors, and the users should be aware of it. The tester can pick up adjacent circuit to the one being tested and indicate the wrong information to the user.

Specifications subject to change without notice.

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