



# STANDARD

# Test & Measuring Instruments

## HIGH VOLTAGE PROXIMITY DETECTOR



CE

### 275 HP

United States Design Patent : US D474, 705 S

### FEATURES

- 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
- Simple and efficient to use
- Weight :Approx. 500g.
- Meets EN61000-3-2 EN61000-3-3 EN61326-1  
EN55011 EN61000-4-2 EN61000-4-3 EN61000-4-4  
EN61000-4-5 EN61000-4-6 EN61000-4-11

The SEW 275 HP is a high voltage proximity detector. It has eight voltage detection settings from 240Vac to 275kVac. The 275 HP consists of an internal pickup sensor plate, a sensitivity selector, a visual and a sound annunciator. With the 275 HP, 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 275 HP 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.

Expected test results ( laboratory testing ) :

Range	Operated from
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 :

Range	Min. Detection Voltage (MDV)	MDV as % of Line Voltage
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 275 HP 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.



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