

How would you like to have a hand-held portable, and safe HV source to prove that your test equipment in the field is operating correctly

SURETECH™ Reference Generator

For use with the SURETECH™ HV/PT2 and HV/PA



To complement and test the HV/PT family (High Voltage Personal Tester), the SURETECH Reference Generator emits an AC electric field to prove that the HV/PT2 or HV/PA are operating correctly. The Reference Generator is carried on the user's belt in a pouch, and can be operated from within the pouch. A single recessed Push-On button switches the Reference Generator On. The Push-On button is accessed through the pouch by the operator. Operation is extremely simple and is shown in the pictures on the following page. The electric field is high enough to trigger the HV/PT2 ***even on the highest HV/PT2 voltage setting of 132kV***. The Reference Generator is encapsulated in resin, which forms an insulated enclosure, for complete user safety, and is INTRINSICALLY SAFE.

The SURETECH™ Reference Generator outputs a clean sine wave electric field, such that the field strength is sufficiently high to trigger the Hv/PT2 even on the 132kV setting. This is a significant feature as the HV/PT2 filters out high frequency spikes from corona discharge etc. The Reference Generator also has a LED that is on while testing. The LED can only be seen if the Reference Generator is removed from its pouch.

Nominal operating distances for HV/PT2 are as follows:

SURETECH™ HV/PT2 Switch setting	Operating Distance [mm]	Description
380 V	140	These operating distances are typical for the HV/PT2 when operated in the hand, through the Reference Generator's pouch. Beware of a wet and/or contaminated pouch, as this could reduce the electric field strength through the Reference Generator's pouch.
11 kV	80	
33 kV	30	
66 kV	15	
132 kV	5	

NB: WHEN TESTING, USERS FINGERS SHOULD REMAIN CLEAR OF NON-LABEL FACE

Sometimes in the field it is impossible to find a known live source to test the tester. The Reference Generator enables proper implementation of the safe testing procedure:

- Check battery healthy is OK on HV/PT2
- then test on a known live source (RefGen)
- then test HV electrical apparatus
- then test on the known live source again (RefGen)
- then check battery healthy is still OK on HV/PT2

General Description (see pictures below)

- ✓ Left picture shows HV/PT2 being tested on Reference Generator out of pouch
- ✓ Top right picture shows HV/PT2 set on its 380V setting, while the Reference Generator is operated from inside pouch, and is switched on by the users left hand. Operating distance is about 120mm
- ✓ Bottom right picture shows HV/PT2 set on 132kV setting, and shows the Reference Generator is operated from the pouch. Operating distance is a few mm.

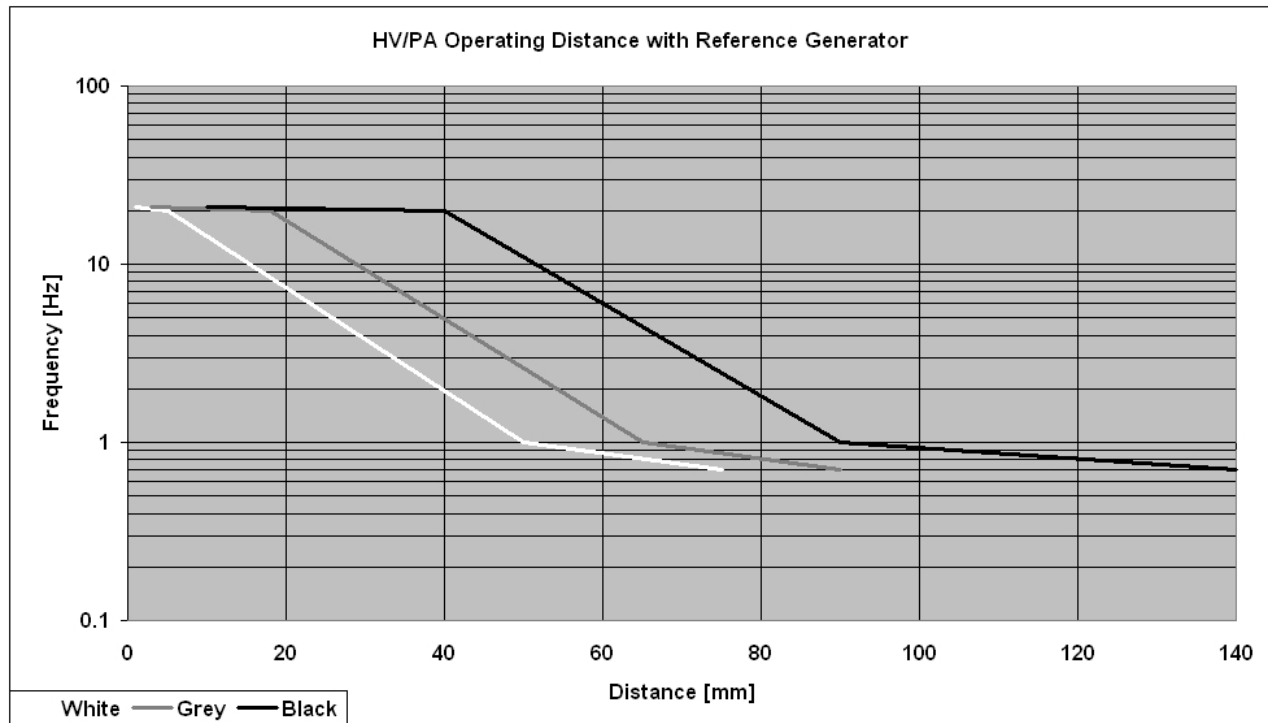
General Features

- ✓ Quick, positive and safe determination that the HV/PT2 proximity tester is operating correctly
- ✓ Epoxy resin potted components for ruggedness and long life
- ✓ Epoxy resin potting insulates high voltages from the user to ensure safety
- ✓ Pouch dimensions: 100mm x 75mm x 42mm
- ✓ Single Push-On button
- ✓ LED and buzzer to indicate battery low
- ✓ Galvanically isolated from HV/PT2 source
- ✓ PP3 Duracell 9 volt battery
- ✓ Patent pending



Using the SURETECH Reference Generator to test HV/PA

Operating characteristics are as follows:



Caution:

Do not allow anything to come anywhere between Reference Generator and HV/PA, otherwise the electric field will be distorted and unreliable results will result.

Keep fingers well away from enclosure of HV/PA, behind the stainless steel plate

Keep fingers well away from Reference Generator emit surface.

How do you test the HV/PA?

–The HV/PA has a variety of test systems

–Safety testers such as HV/PA and HV/PT2 need to be proven healthy before testing

Working in the field, users must ensure the following procedure is used:

1. Test on known live source
2. Make the test on the equipment
3. Test on known live source again

–For simple testing, a portable Reference Generator is held near the HV/PA for field-testing, and operating distance is observed. This not only proves the HV/PA, but also can do a calibration check on the HV/PA.

–A Reference Generator should also be mounted in the depot, for daily testing before workers go into the field



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