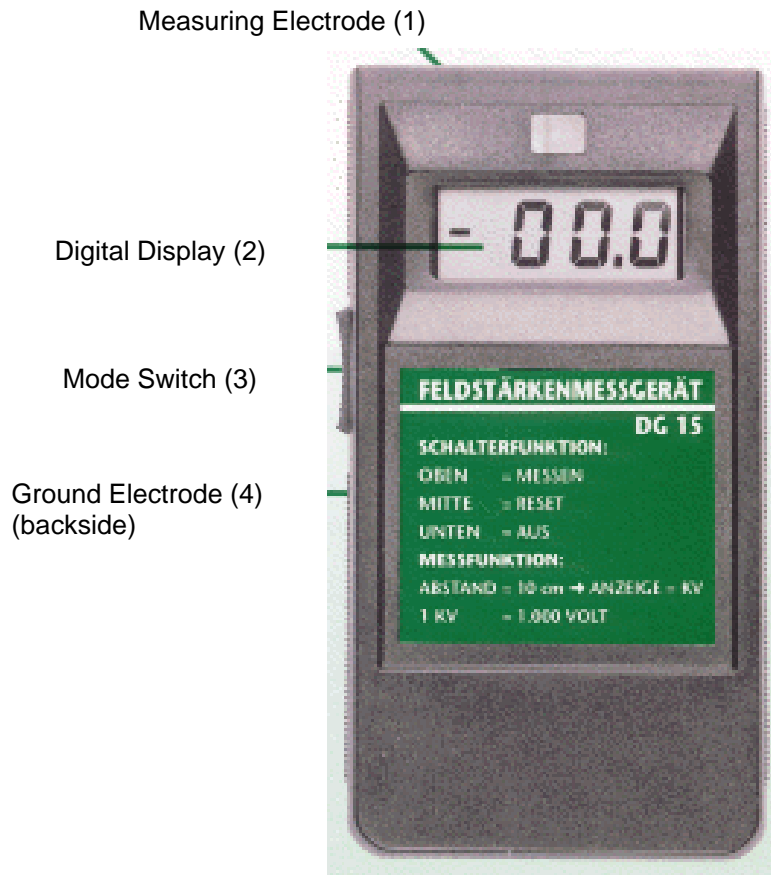


STATIC FIELD METER

DG-15



General

The Static Field Meter DG-15 is designed for detection of electrostatic fields due to surface charges on insulating materials. The DG-15 is calibrated in such a way, that the potential of the test object is indicated by the digital display in kV, if the distance between the Measuring Electrode (1) of the DG-15 and the test object corresponds to 10 cm.

The input resistivity is extremely high and exceeds more than 10^{14} Ohms. The drift of the indicated value is less than 0.5 % per minute. Besides the Measuring Electrode (1) an additional external field probe can be applied, which offers more flexibility especially with respect to evaluation of the relative surface charge distribution on insulating materials.

Cautions

- Never connect any metallic parts to the measuring electrode.
- Avoid any hand touching and rubbing the measuring electrode.
- Do not use thinners or other chemical cleaners.
- Avoid dropping and strong impact.
- Do not expose to temperature extremes.
- Storage the meter only under dry and clean ambient conditions.

Detection of electrostatic fields

1. Use the Mode Switch (3) to select the „RESET“ mode, which corresponds to the middle position. Then the offset of the input amplifier is adjusted automatically after about 2 seconds. Then the digital display indicates the number „00.0“.
2. Use the MODE Switch (3) to select the „MEASUREMENT“ mode. The Measuring Electrode (1) in front of the DG-15 becomes active and the meter is ready for detection of electrostatic fields.

Note: In order to avoid any stray field influence it is recommended, to switch on the DG-15 at a distance from the test object not smaller than 2 meters. Furthermore, the Ground Electrode (4) on the back side of the DG-15 should be hand touched continuously in order to avoid additional measuring errors due to non-controlled potential differences between DG-15 and operator.

3. Move the DG-15 to the test object in such a way, that the Measuring Electrode (1) becomes parallel to the surface, to be detected. Furthermore, a distance of 10 cm is recommended for a quickly evaluation the potential of the test object.
4. Evaluate the potential of the test object. This can be done in an easy way if the measurement is done at a distance of 10 cm, because in this case the indication of the display corresponds directly to the surface potential in kV.

Example

The DG-15 is directed to the screen of a computer monitor. At a distance of 10 cm the digital display indicates “- 015.7”. Then the potential difference between Measuring Electrode (1) and the monitor screen corresponds to a voltage of 15.7 kV, having a negative polarity. The mean field strength can be estimated as 1.57 kV/cm.

Note

Usually the electrostatic field is detected by the Measuring Electrode (1) in front of the DG-15. With respect to more flexibility, an additional hand held probe is available. It is especially intended for quickly evaluation of the relative electrostatic field distribution along insulting surfaces. For this it is recommended to use only the in the accessories included special measuring cable for connection of the external probe to the DG-15. This is designed in such a way, that any noise does not occur if the cable is moved, as in the case of usual BNC cables.