

1 Applications

The KS 30 measuring adapter is an attachment unit for multimeters for voltage measurements in power systems with nominal voltages up to 1000 V.

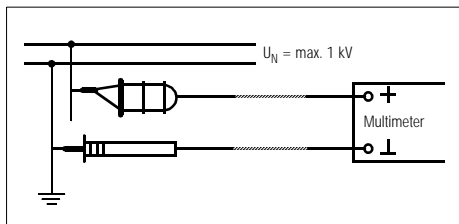
2 Protective function and theory of operation

The KS 30 measuring adapter allows for multimeters to be used for measurements on low voltage systems where transient overvoltages of several kilovolts can appear due to switching functions or lightning discharges.

Dangers caused by overvoltages and mishandling of the multimeter are eliminated thanks to the following protective functions of the KS 30:

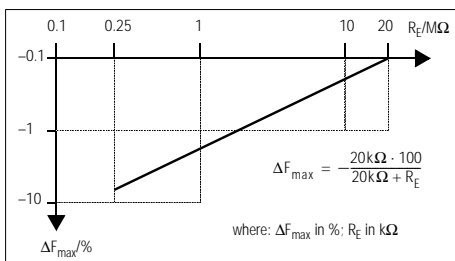
- Protection of the input circuitry of the voltage measuring range of multimeters. The internal resistance of the KS 30 limits the current with over-voltage.
- Safe extinguishing of ignited spark gaps even if a strong voltage source is applied.
- Current limiting in the case of wrong operation (e.g. applying the voltage to be measured to a current input).

3 Connection



4 Notes

- The measuring adapter causes an additional measuring error of the multimeter (ΔF_{\max}). It is a function of the input resistance R_E of the multimeter:



- After an overload, the function of the measuring adapter can be checked at any time by means of a resistance measurement. The internal resistance of the KS 30 must be $15 \text{ k}\Omega \pm 5 \text{ k}\Omega$.

5 Specifications

Reference conditions

| | |
|---|----------------------------|
| Ambient temperature..... | 0 ... +50 °C |
| Frequency..... | 0 ... 1 kHz |
| Waveform | sinusoidal |
| Input resistance of the multimeter | $\geq 250 \text{ k}\Omega$ |
| No prior overload for at least 10 minutes | |

Internal resistance $15 \text{ k}\Omega \pm 5 \text{ k}\Omega$

Overload capacity

| | |
|-------------------------------|-----------------------|
| Continuously | $1200 V_{\text{eff}}$ |
| Transient (rise / fall) | |
| 10 / 1000 μs | 6 kV max. |

General

| | |
|------------------------------|------------------------------------|
| Working temp. range..... | 0 ... +50 °C |
| Storage temp. range..... | -25 ... +65 °C |
| Protection type (probe)..... | IP 50 according to DIN 40 050 |
| Protection class..... | II according to VDE 0411/DIN 57411 |
| Nom. insulation voltage.... | 1000 V |
| Test voltage..... | 6 kV~ |
| Weight..... | 0.2 kg, approx. |

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