



## MOVING-COIL MEASURING INSTRUMENTS

### **Application:**

Moving-coil measuring instruments serve to measure direct current and direct voltage. For the extension of the measuring range shunts, protective resistors or voltage dividers will be applied. The own consumption of moving-coil measuring instruments is very low; thus they are suitable for being connected to shunts, impulse transmitters, thermoelectric elements, measuring transducers and the like.

Moving-coil measuring instruments with rectifier serve to measure alternating current and alternating voltage. They measure the arithmetic mean value however are designed so that in case of sinusoidal quantities they will indicate the effective value. In case of non-sinusoidal quantities an effective value rectifier will be provided for by which peak factors of max. 8 still can be well processed. Hereby the maximum error will amount to less than 1 %.

### **Meters:**

- Core magnet measuring system
- Spring-loaded toe bearing in sapphire stones
- Independent on interfering fields
- High damping
- Linear course of scale

### **Design:**

Moving-coil measuring instruments are manufactured according to DIN EN 60 051 as well as to the further VDE and DIN directions concerned. The precision amounts to 1,5 % referred to the final value of the measuring range. The own consumption is situated between 5  $\mu$ W and 50  $\mu$ W. The measuring ranges as small as possible amount to 25  $\mu$ A and 10 mV. A measuring amplifier will be provided for in case of falling short of these values.

When equalizing moving-coil measuring instruments for the connection to shunts on principle a feed resistor of 0,06 Ohm will be considered; this corresponds to a feed line of 1,3 m, 2 x 0,75 mm<sup>2</sup>. Moving-coil measuring instruments can be overcharged 1,2-fold permanently, ammeters up to 10-fold for a short period and voltmeters up to twofold. As for the rest DIN 60 051 will be applicable.

The connection will be effected by screws M 4 for voltmeters and ammeters up to 15 A, screws M 5 up to 60 A.

Accuracy: According to DIN EN 60 051 class 1,5, in special design class 1

System of protection: According to DIN EN 60 529  
Front side IP 52, in special design IP 54  
Terminals shock-proof, IP 10

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