

SINEAX U 553

Transducer for AC voltage



With power supply
RMS value measurement
Carrying rail housing P13/70



Application

The transducer **SINEAX U 553** (Fig. 1) converts a sinusoidal or a distorted AC voltage into a **load independent** DC current or a **load independent** DC voltage proportional to the measured value.

The transducer fulfils all the important requirements and regulations concerning electromagnetic compatibility **EMC** and **Safety** (IEC 1010 resp. EN 61 010). It was developed and is manufactured and tested in strict accordance with the **quality assurance standard** ISO 9001.



Features / Benefits

- **Measuring input: AC voltage, sine or distorted wave forms, RMS value measurement**

Measured variable	Measuring range limits
AC voltage	0 ... 20 to 0 ... 690 V

- **Measuring output: Unipolar and live-zero output variables**
- **Measuring principle: Logarithmic method**
- **AC/DC power supply / Universal**
- **Standard version as per Germanischer Lloyd**

Mode of operation

Input signal U_{\sim} is galvanically separated from the mains network using a transformer.

The following mathematical expression is then formed using a root-mean-square value computer

$$U_{\text{eff}} = \sqrt{\frac{1}{T} \int_0^T u^2 dt}$$

Fig. 1. Transducer SINEAX U 553 in housing P13/70 clipped onto a top-hat rail.

Following filtration by means of an active filter, the transformation properties of the measuring transducer are determined in the succeeding characteristics circuit.

The output amplifier transforms the measuring signal into an impressed DC current output signal A.

The electronic components are supplied with voltage H from the mains supply unit H.

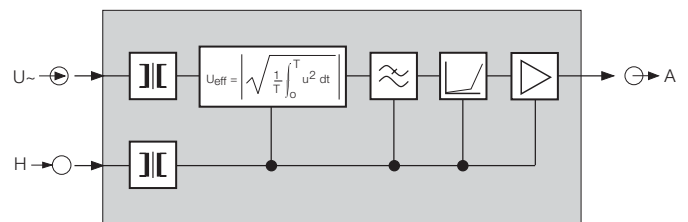


Fig. 2. Block diagram.

Table 1: Standard versions

The following transducer versions are available as standard versions. It is only necessary to quote the **Order No.:**

Nominal frequency	Measuring range	Output signal	Power supply DC or 40...400 Hz	Setting time	Order No.
50/60 Hz	0 ... 100 V	4 ... 20 mA	85 ... 230 V	300 ms	133 843
	0 ... 120 V	4 ... 20 mA			133 869
	0 ... 500 V	4 ... 20 mA			133 885

The complete order code 553-4... according to "Table 3: Specification and ordering information" must be stated for versions other than the basic version and for special configurations.