

Data Sheet no. 8.77/2

Voltage Instrument Transformers for Power Measurements

Application

The voltage instrument transformers are used for the measurement of no-load and load losses of power transformers. Their secondary outputs are connected to a power analyzer. Together with associated current instrument transformers, the power analyzer enables the evaluation of transformer losses. By using the power analyzer, also other important data related to the waveform of voltage and current can be evaluated.

Design

Depending on the application, types with basic accuracy class (basic type: 0.1...0.2 %) or advanced accuracy class (advanced type: 0.01...0.05 %) are available. All types are maintenance free and designed for indoor installation only.

The typical field of application for the basic type is the measurement of no-load losses in on-site transformer test systems. They are designed as single pole, cast resin instrument transformers. Bolted connections are provided for the primary side. The secondary terminals are arranged in a waterproof, sealable box.

Types with advanced accuracy class are suitable for no-load and load loss measurements with small power factor. They are designed as single or double pole, oil-immersed or dry-insulated standard voltage instrument transformers. Different taps can be used to keep the best adaptation of the test voltage to the measuring range. Bolted connections are provided for the primary side. The secondary connections can be accessed by bolted connections or tip jacks.

Technical Data

		Basic type
Type		GSE 30
Application		mobile
Primary voltage	kV	36
Secondary voltage	V	100
Power	VA	5
Accuracy class	%	0.2
Phase displacement	min	±10
Operating frequency	Hz	45 - 200
Measuring frequency	Hz	50 / 60
Test voltage (AC)	kV	70
Height (approx.)	mm	358
Width (approx.)	mm	411
Depth (approx.)	mm	255
Weight (approx.)	kg	45

Technical Data

		Advanced types						
Type		NVOS 50mo	NVOS 60mo	NVDD 3mo	NVOS 50	NVDD 3	NVOS100s	NVOS 220
Application		mobile	mobile	mobile	stationary	stationary	stationary	stationary
Primary voltage	kV	1-2-5-12,5-25-50	5 – 10 – 25 – 50	0.1-0.25-0.5-1-2.5	8-20-50	0.6-1-1.5-2-3	5-10-20-50-100	50–100-200
Secondary voltage	V	100	100	100	100	100	100	100
Power	VA	5	5	5	5	5	5	5
Accuracy class	%	± 0.05	± 0.02	± 0.02	± 0.01	± 0.01	± 0.015	± 0.02
Phase displacement	min	±1	±1	±1	±1	±1	±1	±1
Operating frequency	Hz	40 - 200	40 - 200	40 - 200	40 - 200	40 - 200	40 – 200	40 - 200
Measuring frequency	Hz	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60
Test voltage (AC)	kV	75 / 3	75 / 3	3.8 / 3	75 / 3	4.5 / 3	150 / 3	300 / 3
Height (approx.)	mm	905	1170	617	895	610	1175	2120
Width (approx.)	mm	670	670	726	670	480	670	670
Depth (approx.)	mm	790	870	726	670	480	670	670
Weight (approx.)	kg	300	400	85	340	100	500	1000

For further information please contact:

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