GOSSEN METRAWATT

WZ12A ... F, Clip 0100S



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1 Safety Features and Symbols

The WZ12 current transformer is manufactured and tested in accordance with IEC 61010-1 and IEC 61010-2-032 safety regulations. When used for its intended purpose safety of the operator, as well as that of the instrument, is assured. Their safety is however not guaranteed, if the instrument is used improperly or handled carelessly.
In order to maintain flawless technical safety conditions, and to assure safe use, it is imperative that you read the operating instructions thoroughly and carefully before placing your instrument into service, and that you follow all instructions contained therein.

Observe the following safety precautions:

- The instrument may be used in measuring category II electrical circuits of up to max. 600 V (phase to neutral conductor) or in measuring category III electrical circuits of up to max. 300 V (phase to neutral conductor), to 400 V (phase to phase in 4-wire 3-phase systems) or to 500 V (phase to phase in 3-wire 3-phase systems).
- An open secondary circuit at the WZ12A or WZ12D may lead to dangerous secondary voltages and to the destruction of the secondary coil. Make absolutely certain that the secondary circuit is always connected to the measuring circuit at the measuring or recording instrument first.
- The secondary circuit may not, at any time, be interrupted due to poor contact at the cables, defective fuses or interrupted circuits within the measuring instrument! The current transformer may not be connected to primary current until this condition has been fulfilled!
  (**Note**: This safety precaution does not apply to models equipped with voltage outputs (mV/A or mV/mA), which are supplied with internal matching resistors.)
- Never measure current which exceeds the specified maximum value.
- The surfaces between the jaws must always be free of dust or other contamination!
- The clip may only be held at the gripping surfaces behind the protective collar which have been provided for this purpose during operation.

- The clip-on transformer must be removed from service immediately if the cables or housing components are damaged.
- Check the secondary circuits of the WZ12A clip-on transformer on a regular basis to make sure that continuity is uninterrupted. Remove the clip-on transformer from service if poor contacts become apparent.
- The clip-on current transformer must be protected against liquids and contamination.

Meaning of Symbols on the Instrument



Warning concerning a point of danger (Attention: observe documentation!)



Continuous, doubled or reinforced insulation



Indicates European Conformity



This device may not be disposed of with the trash. Further information regarding the WEEE mark can be accessed on the Internet by entering the search term 'WEEE' at www.gossenmetrawatt.com .

2 General Description

The WZ12 current transformer allows for the interruption-free measurement of alternating current within various measuring ranges from 1 mA to 180 A by enclosing the electrical conductor.

The WZ12A basic model has been designed for general current measurements in electrical circuits of greater than 15 A. Its low price and compact dimensions make it an attractive alternative.

Models WZ12B ... F function with practically no eddy-current loss at all thanks to high performance core materials. They demonstrate a minimal loss angle and can thus be used for power measurement.

Enhanced sensitivity allows for the measurement of leakage currents at machinery and within electrical installations with the WZ12C and the Clip 100S.

The converted output signal is transmitted via 2-conductor connection with 4 mm angle plugs (Clip 0100S with jack plugs). The housing and cables are isolated from the live conductor with double insulation.

3 Performing Measurements

The probe should be calibrated on a regular basis in order to assure flawless functioning and measurement accuracy. Due to the fact that the nickel iron core used for types B…F and Clip 0100S is highly sensitive to impact, special attention must be paid during measurement, storage and transport: Powerful impacts and vibration must be avoided.

Make sure that the secondary circuit is connected to the measuring circuit at the measuring or recording instrument first. Observe the safety precautions listed in chapter 1, as well as the specified allowable output load range for the respective clip-on transformer. Observe correct phase sequencing for k and l at the measuring instrument for power measurements.

Type A and D probes are equipped with a current output and are connected to the current measurement inputs (e.g. 300 mA). Before closing the probe around the current conducting cable, check the secondary circuit, as well as the measurement input at the measuring instrument with an ohmmeter if necessary: Neither circuit may be interrupted!

Do not enclose the primary conductor with the clip until after this test has been performed. The measurement value is calculated by multiplying the displayed value by the transformation ratio, or the appropriate transformation ratio can be selected at the measuring instrument (e.g. **METRAHIT** | **BASE**, **METRAHIT** | **TECH** or **METRAHIT** | **T-COM**).

Be sure to remove the clip from the primary conductor before the connections at the measuring instrument are disengaged.

Probe types B, C, E, F and Clip 0100S convert primary current into a proportional output voltage, and must therefore be connected to the voltage measurement input (mV or V) at the measuring instrument.

4 Technical Data

Type	WZ12A	WZ12B	WZ12C	WZ12D	WZ12E	WZ12F	Clip 0100S
Article Number	Z219A	Z219B	Z219C	Z219D	Z823D	Z823E	Z501E
Measuring Range	15…180 A~	10mA...100A~	1 mA…15 A~ 1 A…150 A~	30mA...150A~	0.2…150 A~	20mA…15A~	1 mA…15 A~ 1 A…150 A~
Frequency Range	45…65 … 400 Hz	45…65 … 500 Hz	45…65 …400 Hz	45…65 …500 Hz	30…45…65 …500 Hz	30…45…65 …500 Hz	45…65 …500 Hz
Transformation Ratio	1000 : 1 (100 mA/A)	100 mV/A	1 mV/mA 1 mV/A	1000 : 1 (1 mA/A)	10 mV/A	100 mV/A	1 mV/mA 1mV/A
Output Burden/Load	< 5 Ω	> 1 MΩ	> 1 MΩ > 10 kΩ	< 50 Ω	> 10 kΩ	11…13 kΩ	> 1 MΩ > 10 kΩ
Intrinsic Uncertainty under Reference Conditions	±3% rdg.	±1.5% rdg. ±1 mA	±3% rdg. ±0.2 mA ±2% rdg. ±0.1 A	±2.5% rdg. ±1 mA	±2% rdg. ±10 mA	±2% rdg. ±1 mA	±3% rdg. ±0.2 mA ±2% rdg. ±0.1 A

Type		WZ12A	WZ12B	WZ12C	WZ12D	WZ12E	WZ12F	Clip 0100S
Influence Error Frequency $f_{min}…f_{max}$		±3% rdg.	±1.5% rdg. ±1 mA	±3% rdg. ±0.2 mA ±2% rdg. ±0.1 A	±2.5% rdg. ±1 mA	±2% rdg. ±10 mA	±2% rdg. ±1 mA	±3% rdg. ±0.2 mA ±2% rdg. ±0.1 A
Influence Error Temperature Δ/10 K (typ.)		±3% rdg.	±1.5% rdg.	±3% rdg.	±2.5% rdg.	±2% rdg.	±2% rdg.	±3% rdg.
Typical Phase Angle Error	45…65 Hz $f_{min}…f_{max}$	not defined	3° 10°	not defined 3° 10°	3° 10°	2° 10°	2° 15°	not defined 3° 10°
Max. Overload	cont. dyn.< 1s	360 A 900 A	200 A 500 A	300 A 750 A	300 A 750 A	300 A 750 A	30 A 75 A	300 A 750 A
Open-Circuit Voltage		max. 15 V [1]	max. 15 V	max. 27 V	max. 27 V [1]	max. 27 V	max. 27 V	max. 27 V

Legend
rdg. = of reading

[1] Do not operate the clip-on transformer continuously without load.

Reference Conditions

Frequency	45 … 65 Hz
Waveshape	Sine
Temperature	21 … 25 °C
Relative Humidity	45 … 55%
Output Burden/Load	Specified range

Electrical Safety

Protection Class	II per IEC 61010-1/ VDE 0411-1	
Measuring Category	II	III
Operating Voltage	600 V	300 V
Pollution degree	2	
Test Voltage	3.7 kV AC, 1 min.	

Ambient Conditions

Operating Temperature	–10 °C … +40 °C
Storage Temperature	–20 °C … +70 °C

Electromagnetic Compatibility

Emission	EN 61326-1
Immunity	EN 61326-1

Mechanical Design

Dimensions	40 mm x 26 mm x 120 mm
Jaw Opening	15 mm ∅
Housing Material	Plastic (Novodur), Color: anthracite
Connector Cable	Length: approx. 120 cm Protection: IP40 WZ12A…F: with contact-protected 4 mm banana plugs Clip 0100S: with 3, 5 mm jack plug
Weight	approx. 170 g

5 Maintenance

The clip-on current transformer requires no maintenance. The probe may not be immersed into any liquids during cleaning, and no solvents may be used. The surfaces between the jaws should be cleaned with a lightly oiled cloth on a regular basis. Remove contamination and dust from the plastic components and connector cables with a cloth which has been dampened with soapy water. Measure the resistance at the secondary circuit with an ohmmeter on a regular basis. If loose contacts become apparent, remove the clip-on current transformer from service.

6 Repair and Replacement Parts Service Calibration Center and Rental Instrument Service

If required please contact:

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