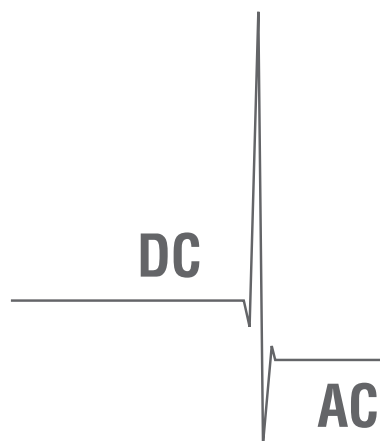




## LOW POWER PASSIVE VOLTAGE TRANSFORMER

### GSER 52

*DC AND AC VOLTAGE DIVIDER UP TO 72,5 kV*



- **Medium Voltage Applications**
- **Direct, Alternating and Mixed Voltages**
- **Wide Frequency Range**



GERMANY HAMBURG • WIRGES • KIRCHAICH • DRESDEN  
AUSTRIA MARCHTRENK | HUNGARY KECSKEMÉT | CHINA SHANGHAI | USA HARTWELL



## FEATURES

- Passive network - no auxiliary power necessary
- High electromagnetic compatibility (EMC)
- High overload capability
- Low temperature drift

## APPLICATION

The low power passive voltage transformer GSER 52 measures direct, alternating and mixed voltages for e.g. motor management, power quality analysis and protection purposes. Its area of application are indoor medium voltage installations like Static VAR Compensators (SVCs) or frequency converter installations. Due to its passive network, it is independent of any auxiliary power supply.

The GSER 52 is an alternative to conventional voltage transformers once the primary voltage contains DC components and/or higher frequencies.

## DESCRIPTION

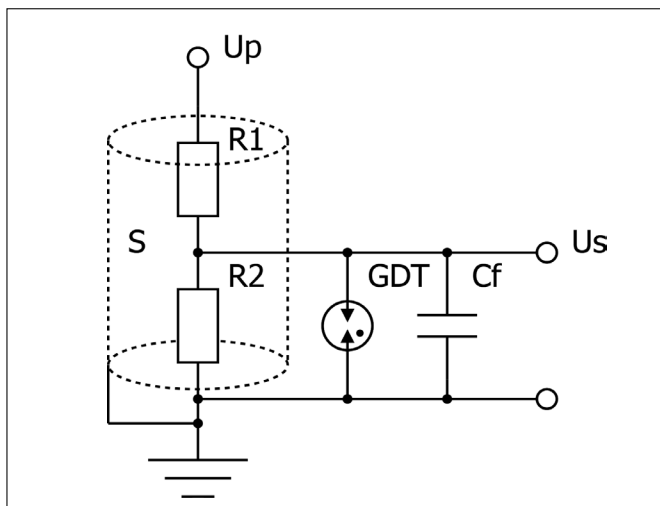
The GSER 52 consists of a high voltage resistive divider ( $R_1$ ,  $R_2$ ), an electromagnetic shielding (S) and a surge protector (GDT).

The voltage divider transforms the primary voltage  $U_p$  to a low voltage  $U_s$ , which can be processed by the secondary system. Parasitic capacitances resulting from the mechanical design of the sensor, the output cable and the input of the secondary system are compensated ( $C_f$ ), leading to a wide frequency range.

The electromagnetic shielding ensures high EMC and makes the GSER 52 suitable for use in environments with heavy external interference and disturbance.

The gas discharge tube (GDT) protects the secondary tap against high voltages, since there is no galvanic isolation between the primary and secondary terminal.

## SCHEMATIC CIRCUIT DIAGRAM GSER 52



## TECHNICAL DATA

### General

Type	GSER 52
Application	Motor management, power quality analysis, protection purposes
Design	Cast resin insulated, ins. class E (IEC 60085)
Functional principle	Resistive voltage divider
Standard	IEC 61869-11

### Electrical Data

#### Input

Rated primary voltage	$U_{pr}$	$60/\sqrt{3}$ kV <sup>(1)</sup>
Rated voltage factor	$F_v$	2 (cont.)
Highest voltage for equipment	$U_m$	72,5 kV
Primary capacitance	$C_1$	< 10 pF
Primary resistance ( $\pm 5$ %)	$R_1$	100 M $\Omega$
Rated frequency	$f_R$	50/60 Hz <sup>(1)</sup>

#### Output

Rated secondary voltage	$U_{sr}$	$3,25/\sqrt{3}$ V <sup>(1)</sup>
Rated burden	$R_{br}$	2M $\Omega$    50pF <sup>(1)(2)</sup>

#### Accuracy

	Standard	High Precision
Accuracy class @ $f_R$	1	0,2
Accuracy up to 2 kHz	$\pm 15$ %	
Accuracy up to 150 kHz		$\pm 15$ %
Rated phase offset $\phi_{or}$	0'	0'

#### Primary Terminal

Connector type	M10 screw
Cable type	n/a
Cable length	n/a

#### Secondary Terminal

Connector type	n/a
Cable type	Shielded cable <sup>(2)</sup>
Cable length	5 m <sup>(1)(2)</sup>

#### Insulation Level

Power frequency withstand	95 kV	(50 Hz, 1 min)
Lightning impulse withstand	250 kV	(1,2/50 $\mu$ s)

#### Service Conditions

Environment	Indoor
Temperature class	-5/40
Storage temperature	-25 – 85 °C

#### Mechanical Data

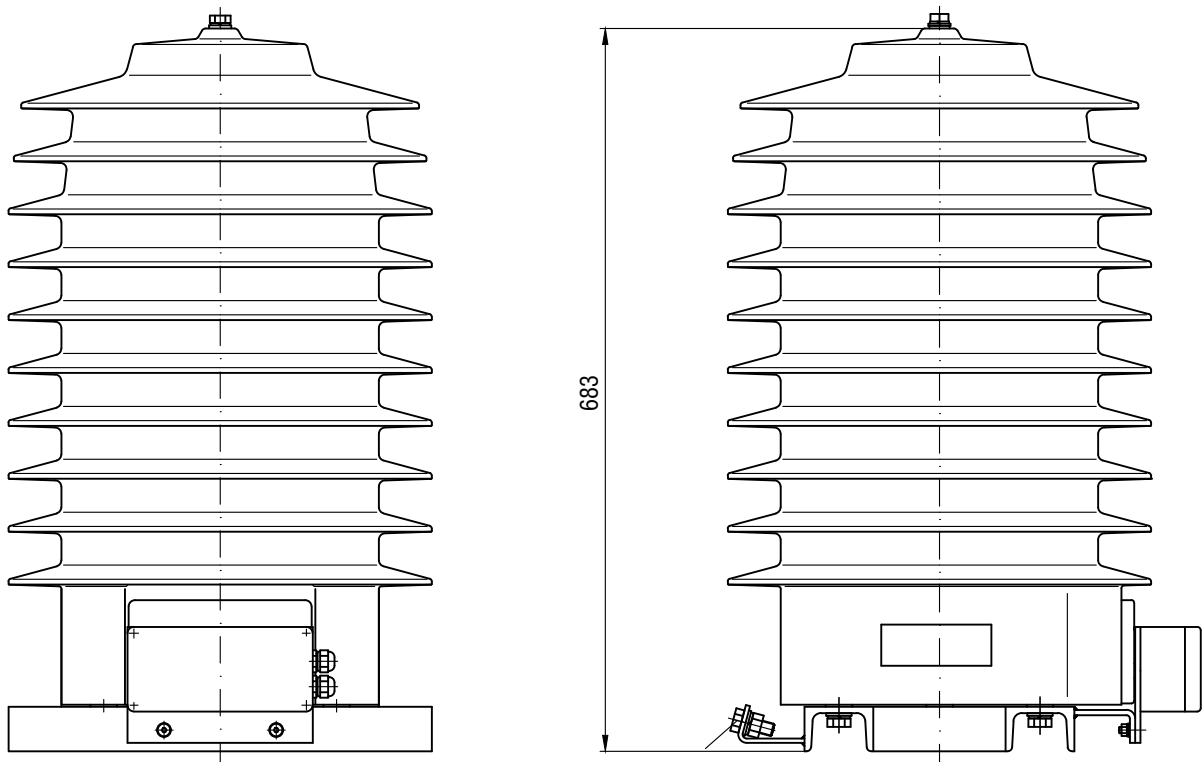
Creepage distance	1433 mm
Flashover distance	620 mm
Insulator color	Brown/Grey
Size (D x H)	400 x 683 mm
Weight, approx.	100 kg

#### NOTES:

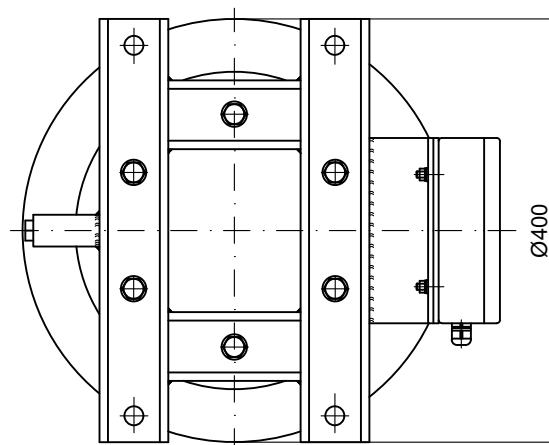
(1) Example value, other values on request

(2) Burden and output cable capacitance belong to the individual voltage transformer adjustment. Output cable type and length must not differ from the specifications otherwise the accuracy changes.

## OUTLINE DRAWING



View from below



All dimensions in mm.  
Only vertical mounting possible.

### SOLUTIONS WITH ACTIVE ELECTRONICS

Electronic Voltage Transformer EGIW x64	DC and AC Measuring System with Optical Data Transmission
Electronic Voltage Transformer EGIW x85	DC and AC Voltage Divider with Isolation Amplifier
Electronic Voltage Transformer EVBA x06	DC and AC Voltage Divider with Buffer Amplifier
Buffer Amplifier EVBA 006	Add-on for existing Low Power Passive Voltage Transformers

# ***EXPERIENCE AND SOLUTIONS | TOGETHER!***

## **RITZ INSTRUMENT TRANSFORMERS GmbH**

Wandsbeker Zollstr. 92-98

22041 Hamburg

Germany

Phone: +49 40 511 23 - 0

Fax: +49 40 511 23 - 111

Email: [info@ritz-international.com](mailto:info@ritz-international.com)

We are the leading specialist for instrument transformers, cast resin parts, solid bus bar systems and power transformers.

We develop your standard equipment, but also translate your ideas into customized products. Tell us your requirements, we develop the solution.

For more information visit [www.ritz-international.com](http://www.ritz-international.com) or contact us at [info@ritz-international.com](mailto:info@ritz-international.com)

