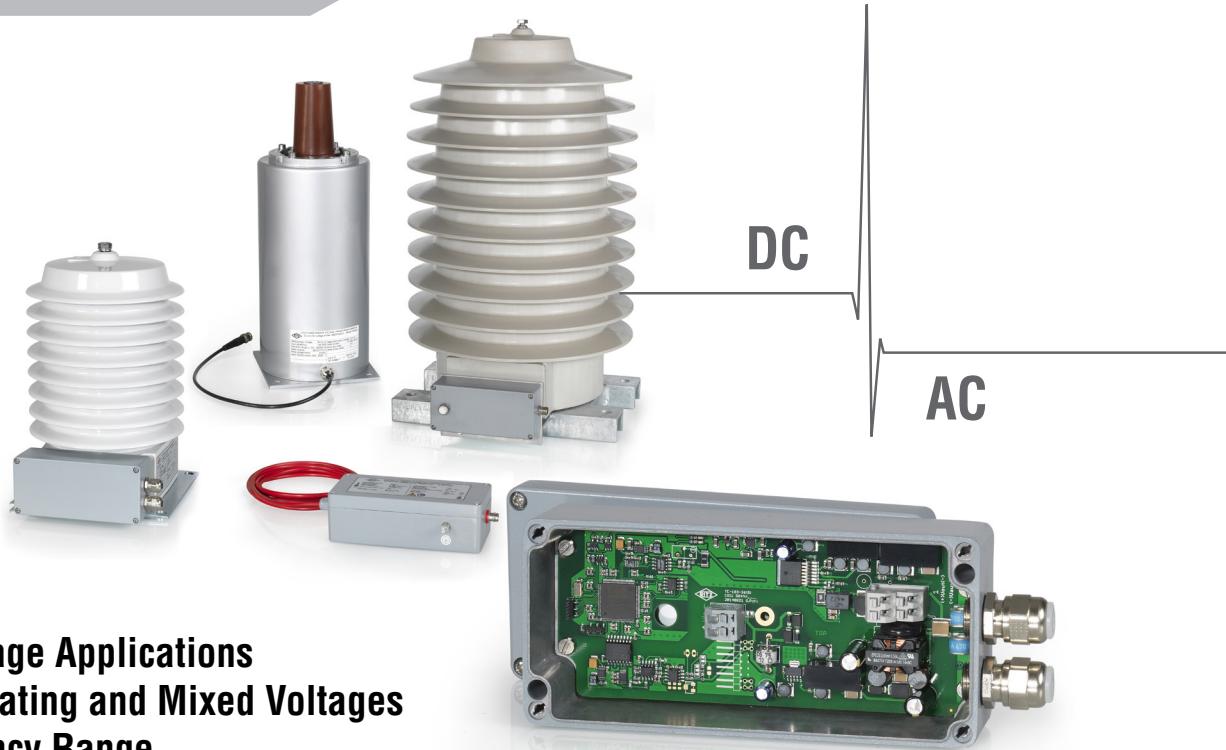




ELECTRONIC VOLTAGE TRANSFORMER

EGIW x85

DC AND AC VOLTAGE DIVIDER WITH ISOLATION AMPLIFIER



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



GERMANY HAMBURG • WIRGES • KIRCHAICH • DRESDEN
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FEATURES

- Electrical isolation
- High electromagnetic compatibility (EMC)
- Low temperature drift
- Negligible dependence on burden

APPLICATION

The electronic voltage transformer EGIW x85 measures direct, alternating and mixed voltages for e.g. motor management, power quality analysis and protection purposes. Its area of application are medium voltage installations which require galvanic isolation between the primary and secondary voltage.

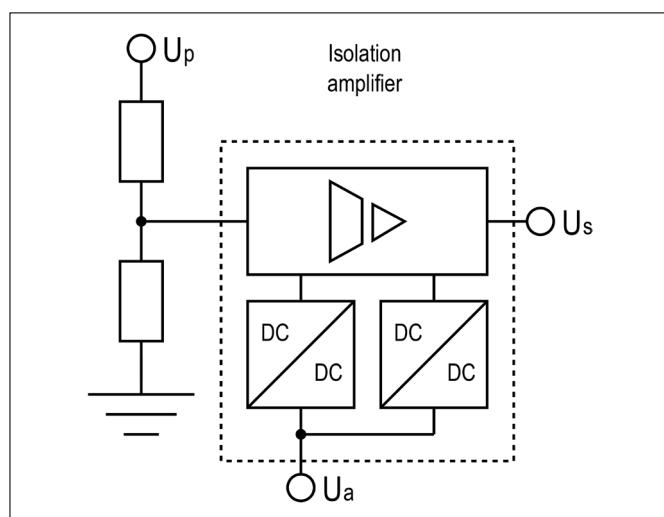
The EGIW x85 is an alternative to conventional voltage transformers once the primary voltage contains DC components and/or higher frequencies.

DESCRIPTION

The EGIW x85 system consists of a low-power passive voltage transformer (passive LPVT) and an isolation amplifier. The voltage divider inside the passive LPVT transforms the primary voltage U_p to a low voltage, which is digitized inside the electronics. After the galvanic isolation, the digital signal is converted back to the analog secondary voltage U_s . The auxiliary power supply U_a is required to run the electronics.

The isolation amplifier provides an isolation both between primary and secondary voltage and between auxiliary power supply and all other ports, thus extending the performance of the passive LPVT.

SCHEMATIC CIRCUIT DIAGRAM EGIW X85



TECHNICAL DATA

General

Type	EGIW x85
Application	Motor management, power quality analysis, protection purposes
Design	Voltage sensor with active electronics
Functional principle	Voltage divider
Standard	IEC 61869-6 / IEC 60044-7

Versions

EGIW 985	with GSER 16, up to 36 kV
EGIW 1085	with GSER 52, up to 72,5 kV
EGIW 1185	with GSER 3, up to 6 kV
EGIW 1285	with GBERA 12...36, up to 36 kV

Electrical Data

Input

Rated primary voltage	U_{pr}	see sensor data
Primary voltage range	U_p	$0-U_m$ (1)
Highest voltage for equip.	U_m	6–72,5 kV
Primary capacitance	C_1	see sensor data
Primary resistance ($\pm 5\%$)	R_1	see sensor data
Rated frequency	f_r	50 / 60 Hz

Output

Rated secondary voltage	U_{sr}	$3,25/\sqrt{3} \text{ V}$ (2)
Secondary voltage range	U_s	0–12 V
Rated burden	R_{br}	$2 \text{ M}\Omega \parallel 50 \text{ pF}$ (2)
Burden range	R_b	$20 \text{ k}\Omega - \infty \parallel 0-2 \text{ nF}$
Max. secondary current	I_{smax}	30 mA, short-circuit proof
Max. secondary voltage	U_{smax}	$< 24 \text{ V}$, overvoltage protected

Accuracy

Accuracy class	0,2
Accuracy up to 9 kHz	$\pm 3\%$
Cutoff frequency (-3 dB)	f_c
Rated delay time	t_{dr}
Rated phase offset	ϕ_{or}

Auxiliary Power Supply

Aux. supply voltage	U_a	24 V (DC)
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Power Supply Terminal

Connector type	Push-in CAGE CLAMP®
Cable type	LiYCY-CY, 2x2x0,14 mm ²
Cable length	$\leq 10 \text{ m}$ (3)

Secondary Terminal

Connector type	Push-in CAGE CLAMP®
Cable type	LiYCY-CY, 2x2x0,14 mm ²
Cable length	$\leq 10 \text{ m}$ (3)

Electrical Isolation

Board input vs. output	3000 V (rms, 50 Hz, 1 min)
Other combinations	1500 V (rms, 50 Hz, 1 min)

Insulation level

Power frequency withstand	see sensor data
Lightning impulse withstand	see sensor data

Service conditions

Environment	Indoor/outdoor
Operating temperature	-40–40 °C
Storage temperature	-40–85 °C

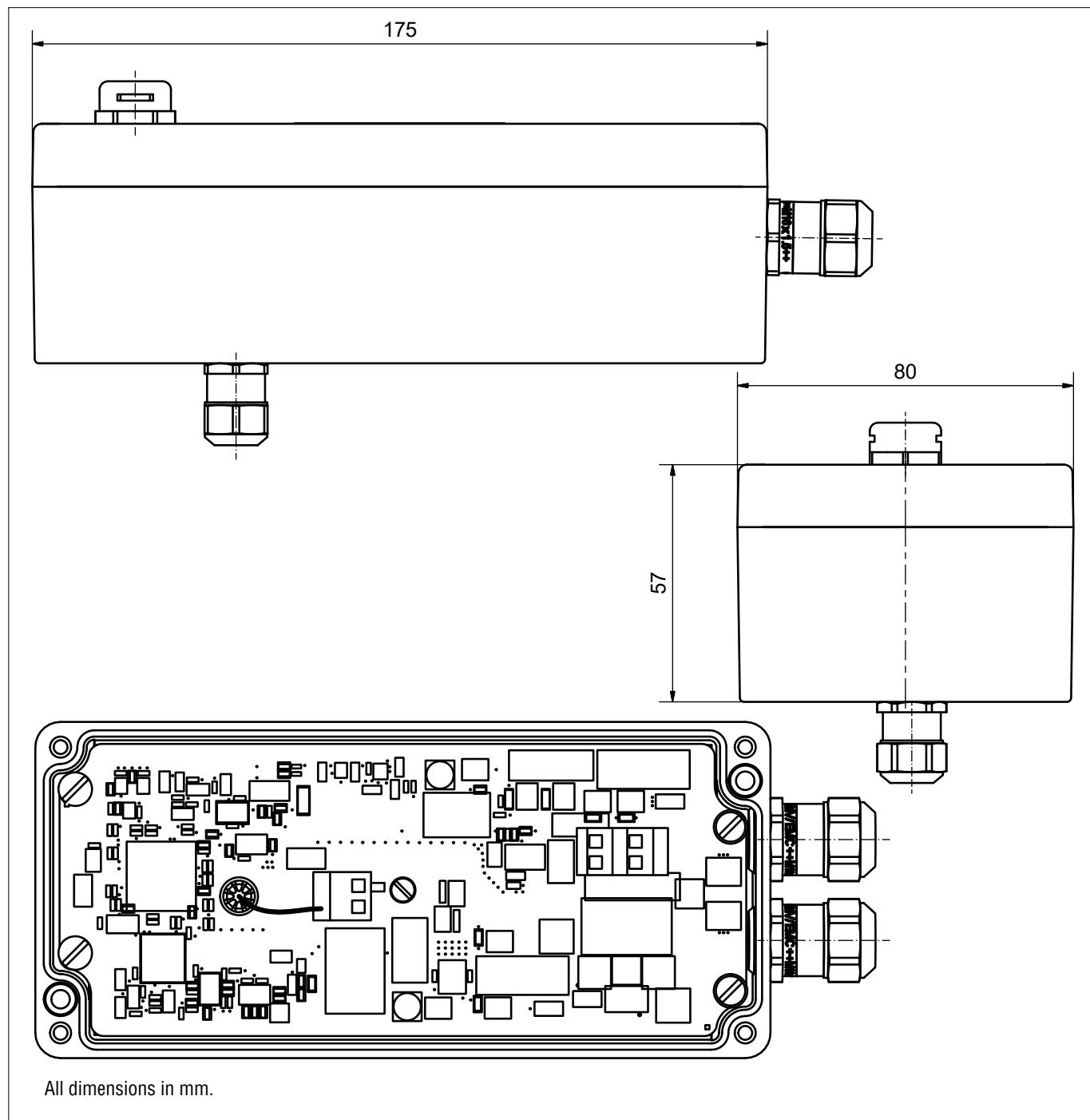
Mechanical Data

Creepage distance	see sensor data
Flashover distance	see sensor data
Insulator color	see sensor data
Size (L x W x H, electronics)	175 x 80 x 57 mm
Weight (electronics)	approx. 750 g

NOTES:

- (1) For higher voltages, contact RITZ
- (2) Example value, other values on request
- (3) The cable is not part of the EGIW x85. If desired, it can be ordered in addition.

OUTLINE DRAWING



EXPERIENCE AND SOLUTIONS | TOGETHER!

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