We offer:

- **COMPETENCE** for innovative solutions for your measurement requirements.
- More than 30 years of **EXPERIENCE** using electronic equipment in electrical energy applications.
- Approved insulation technology combined with high **QUALITY**.
- Unconventional technologies for high **RELIABILITY** especially in environments with high electromagnetic emissions.
- Products of a company with **CERTIFICATION** according to DIN EN ISO 9001:2000.

**Current Sensors**
- Currents up to 24000 A
- Accuracy from 0.01%
- Frequencies from DC to 10 kHz

**Voltage Sensors**
- Voltages up to 90 kV
- Accuracy from 0.2%
- Frequencies from DC to 10 kHz

**Technologies**
- Compensating systems
- Fiber optic and laser technology
- Digital systems
- Self-supplying units
- Modulation technology
- Transformer principle
- Hall effect
- Rogowski coils
- Kramer transducer
- R- and C-dividers

**RITZ GmbH**
Horner Landstraße 302 – 304  |  22111 Hamburg  |  GERMANY
Tel.: +49 40 511- 0  |  Fax: +49 40 511- 23269
E-Mail: info@ritz-international.com

**Medium Voltage Instrument Transformers**
- Up to 72.5 kV
- Indoor and Outdoor
- Metal Clad Design
- Metalized Design
- Explosion Proofed Metering Voltage Transformers for Railway Vehicles

**Sensor Types**
- Low Voltage Instrument Transformers up to 1.2 kV
- Current Transformers for Measuring and Protection Purposes
  - Wound Primary CT
  - Auxiliary CT
  - Summation CT
  - Window type CT
  - CT for switch fuses
  - Tube type CT
  - Window type CT for high currents
  - Multi-range CT
  - Split-core CT
  - Split-core types for earth fault protection
- Transformers for Measuring Purposes
  - 3-phase CT
- Laboratory Current and Voltage Transformers
- Instrument Transformers for Bill / Tariff Metering
- Damping Inductance Devices against Ferroresonance

**SIS Cast Resin Bus Bar Systems**
- Up to 72.5 kV & 7000 A – The Alternative to Parallel-Connected Cables

**System Specific Benefits**
- Compact design
- Reduced requirements for the installation space
- Small bending radii
- 3-dimensional geometric shape is possible
- Natural cooling due to effective conductor design
- High operational reliability due to factory routine test of each bus bar
- No maintenance

**Safety Benefits**
- Touch Safe
- Fully insulated and capacitive graded system
- High thermal and dynamic short circuit current withstand capabilities
- Excluded phase to phase short-circuits
- Non-toxic fumes in case of fire - self extinguishing

**Cast Resin Power Transformers**
- Up to 36 kV and 20 MV A

**Applications**
- Power Distribution
- Rectifier Drives
- Oil Platforms / Vessels
- Generator Excitation
- Injection Systems
- Transmitter Systems
- Grounding Systems
- Laboratory Systems
- Traction Power Systems (Streetcar, Tram, Metro, Railway)

**Customised Cast Resin Parts**
- Development and formulation of cast resin moulding materials for electrical low and medium voltage applications
- Design and production of cast resin mouldings e.g. special bushings, fuse housings etc.
We offer ...

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- Voltages up to 90 kV
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### Technologies
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- Fibre optic and laser technology
- Digital systems
- Self supplying units
- Modulation technology
- Transformer principle
- Hall effect
- Rogowski coils
- Krämer transducer
- R- and C- divider

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Electronic DC transformer

The electronic DC transformer EMVI 40 1 ED ensures an accurate and potential-free measurement of DC currents which is needed e. g. to control magnetic fields like in particle accelerators.

Currents up to 120 A DC are measured with a minimal error lower than 100ppm (cl. 0,01).

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Applications

- Power distribution
- Railway applications
- Electrotechnics
- Environmental engineering
- Research and Development
- Power network analysis
- Protection systems
- Switchgear
- Automotive industry
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• Railway applications
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Electronic DC transformer
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Electronic Voltage Sensor
The electronic voltage sensor EPOS 120 is designed for applications in medium- and high-voltage installations. Direct, alternating and mixed voltages of high dynamics and frequency ranges are transmitted via optical fibre. The required auxiliary power is also transmitted by an optical fibre from the local to the remote module. High accuracy of cl. 0.2 is achieved by the entire system.

Block-type multi sensor unit
The block-type multi sensor unit provides signals for current and voltage measurement as well as a voltage reference for electronic protection relays.

The following physical principles are used for the measurements:

Current measurement
For current measurement a Rogowski coil delivering an output voltage signal is used. This current sensor is free from saturation effects and designed for continuous thermal rating according to the data sheet.

Voltage measurement
For voltage measurement a high voltage ohmic resistive divider is used. The output signal of this sensor is a voltage signal proportional to the primary voltage. This sensor is impulse voltage proof and does not need to be disconnected during high DC voltage testing of cables.

Voltage reference
For the voltage reference a capacitor is included in the sensor unit for connection of HR, MR, LR as well as LRM-Systems*.

General
The block-type multi sensor unit is supplied with doublescreened cable and coaxial plug with gold-plated contacts.

The voltage reference terminal is located beside the screened secondary terminal block on the right hand side.

The current measuring range is adjustable by links which are located beneath the cover of the cable bushings.

Both sensor output terminals can be shorted or open circuited without damage.

* HR = High Resistance   MR = Medium Resistance   LR = Low Resistance   LRM = Low Resistance Modified

Electronic Instrument Transformers and Sensors according to IEC 60044
RITZ Product Overview

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Cast Resin Power Transformers
up to 40,5 kV und 25 MVA
Applications
• Power Distribution • Rectifier Drives • Oil Platforms / Vessels
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• Grounding Systems • Laboratory Systems
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• Design and production of cast resin mouldings e. g. special bushings, fuse housings etc.

RITZ Instrument Transformers GmbH
Wandsbeker Zollstraße 92-98  |  22041 Hamburg  |  GERMANY
Tel.: +49 40 511-0  |  Fax: +49 40 511-23269
E-Mail: info@ritz-international.com
www.ritz-international.com