



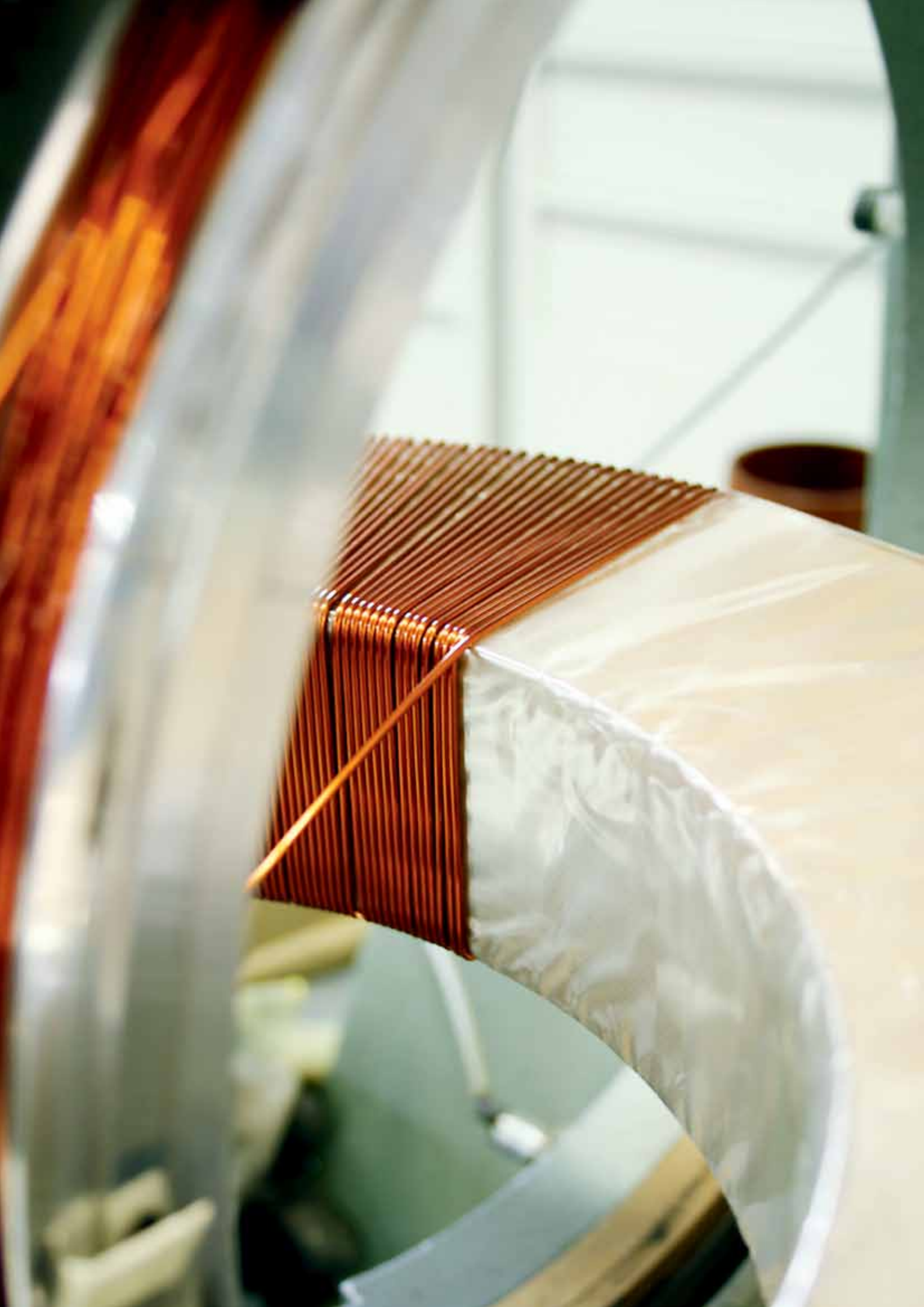
Product Overview



PFIFFNER

Current and voltage – our passion

RHOMBERG
INSTRUMENTACIÓN Y ELECTRÓNICA INDUSTRIAL



Swiss quality combined with global experience

PFIFFNER is a values-driven Swiss company with:

- over 85 years of experience and an enormous amount of know-how
- long-lasting partnerships with customers and suppliers
- a high level of vertical integration to control all key processes in-house
- Swiss quality - from development right through to delivery

Total customer satisfaction is our goal. With many years of experience and technical expertise we can provide the right solutions to meet all our customers' needs. We offer a wide range of instrument transformers for voltage levels up to 550 kV. Thanks to our strong presence in international markets and our close contact with customers and local authorities, we fully understand the importance of local factors. This enables us to develop optimally customised products.

Qualified and motivated employees, who ensure efficient production and the ongoing development of our products, are the basis of our success. By constantly training and developing our employees, we guarantee up-to-date knowledge and high-quality products.

As an independent Swiss company, we are a reliable and authentic partner for customers like you.

PFIFFNER - the symbol of unique quality



HIGH VOLTAGE

Our wide range of products insulated with oil-paper or SF₆ offers our customers an optimal choice of high-quality instrument transformers with a long lifetime.

Our voltage and current transformers are hermetically sealed. All products have a high level of safety against explosion hazards and meet the latest international standards. They all have aluminum casings and are available with silicone composite (LSR) or for oil-paper insulated transformers with porcelain (C130) insulators if requested. All instrument transformers are available with various creepage and arcing distances. Because of the very close cooperation with our customers, we achieve optimized solutions which are used worldwide.

As a result of continuous development in our R&D department, we can offer products with the latest and state-of-the-art design.

MEDIUM VOLTAGE

This range of products covers standardized resin casted current and voltage transformers in block design up to 72 kV as well as cable current transformers. All products meet the specifications for various indoor and outdoor applications in power stations and power distribution systems.

Depending on their particular application, cable current transformers are casted in resin, installed in polycarbonate/ABS shells or mounted on boards or aluminium tubes.

Our production and test facilities are designed to manufacture and test current transformers (also current transformer cascades) for a rated current up to 50 kA. Current transformers can be designed for measurement as well as for complex transient protection. We can offer different types of current transformers as ring core or as split core versions for indoor or outdoor application.

LOW VOLTAGE

Instrument transformers for low-voltage applications are produced according national and international standards. The current and voltage transformers can be calibrated for different countries and delivered with the corresponding certificate. We also offer specially designed and custom-built solutions for your specific applications.



Current transformers

Outdoor operation



JOF T (24-123) kV

- Oil-paper insulated
- Simple primary winding changeover
- Robust design
- Earthquake-resistant
- Low center of gravity



JOF (24-170) kV

- Oil-paper insulated
- Simple primary winding changeover
- Explosion-tested casing
- Fine-graded bushing
- Generously-sized terminal box



JOF (245-550) kV

- Oil-paper insulated
- Simple primary winding changeover
- Explosion-tested casing
- Fine-graded bushing
- Generously-sized terminal box



JGF (245-550) kV

- SF₆-gas insulated
- Primary winding changeover
- Pressure release by using a metal burst-disc
- Fine-graded foil bushing
- Only silicone insulator available

The high voltage CT's consist of three head types in different sizes and one hairpin type with Viton membrane. All oil-filled head types have metal expansion bellows to withstand higher thermal loads. The CT's can be produced with flat or round primary connectors.



Inductive voltage transformers

Outdoor operation



EOFF (24-72) kV

- Oil-paper insulated
- Explosion-tested casing
- Robust design
- Earthquake-resistant
- Very low center of gravity



EOFF (123-170) kV

- Oil-paper insulated
- Fine-graded bushing
- Oil level indicator
- Generously-sized terminal box



EOFF (245) kV

- Oil-paper insulated
- Fine-graded bushing
- Oil level indicator
- Generously-sized terminal box



EGF (245-550) kV

- SF₆-gas insulated
- Pressure release by using a metal burst-disc
- Fine-graded foil bushing
- Gas density control
- Only silicone insulator available

Our VT's are working at low induction. With an open delta winding and damping unit, ferro-resonance can be minimized if requested. The secondary terminal box can be equipped with fuses to protect the secondary wiring and equipment.



Capacitive voltage transformers

Outdoor operation



ECF (72-245) kV

- Upgradable for the transmission of high-frequency signals
- No on-site adjustment is necessary
- Increased security against relaxation oscillation



ECF (245-550) kV

- Upgradable for the transmission of high-frequency signals
- No on-site adjustment is necessary
- Increased security against relaxation oscillation
- Multi-level primary capacity



ROF (72-550) kV

- Capacitive resistive voltage divider
- Protection and measurement in high-voltage transmission (AC/DC)
- Can be used for the measurement of mains quality (bandwidth 2 MHz)
- Highest accuracy from DC up to 10 kHz

All CVT's and ROF's are ferro-resonance free and are not damaged by line discharge. Optionally all CVT's can be equipped with line trap connections, PLC accessories and expansion bellows indication. The secondary terminal box can be equipped with fuses.



Combined instrument transformers

Outdoor operation



EJOF (24-170) kV

- Oil-paper insulated
- Guaranteed accuracy over entire service life
- Explosion-tested casing
- Fine-graded bushing
- Low space requirements for installation



EJGF (245-550) kV

- SF₆-gas insulated
- Guaranteed accuracy over entire service life
- Pressure release by using a metal burst-disc
- Protection against thermal overload
- Only silicone insulator available

The combined transformers include all advantages of the current and voltage transformers but with smaller footprint. Up to 170 kV with oil-paper and above with SF₆-gas insulation. Primary terminals are available in flat and round design.



GIS current transformers

Indoor and outdoor operation



JK GIS

- Single-phase current transformer
- Free choice of mounting position
- Mounted outside encapsulation
- Primary current up to 5'000 A



JK GIS

- Three-phase current transformer
- Free choice of mounting position
- Mounted inside encapsulation
- Primary current up to 4'000 A



JKO

- Ring core current transformer
- Free choice of mounting position
- Mounted inside or outside encapsulation
- Primary current up to 5'000 A
- Installation by customer

GIS current transformers can be manufactured according to IEC, IEEE, GOST and other standards. All CT's are designed and built based on specific customer requirements. The design is optimized to minimize the impact of external magnetic fields.



GIS voltage transformers

Indoor and outdoor operation



EGK (245-420) kV

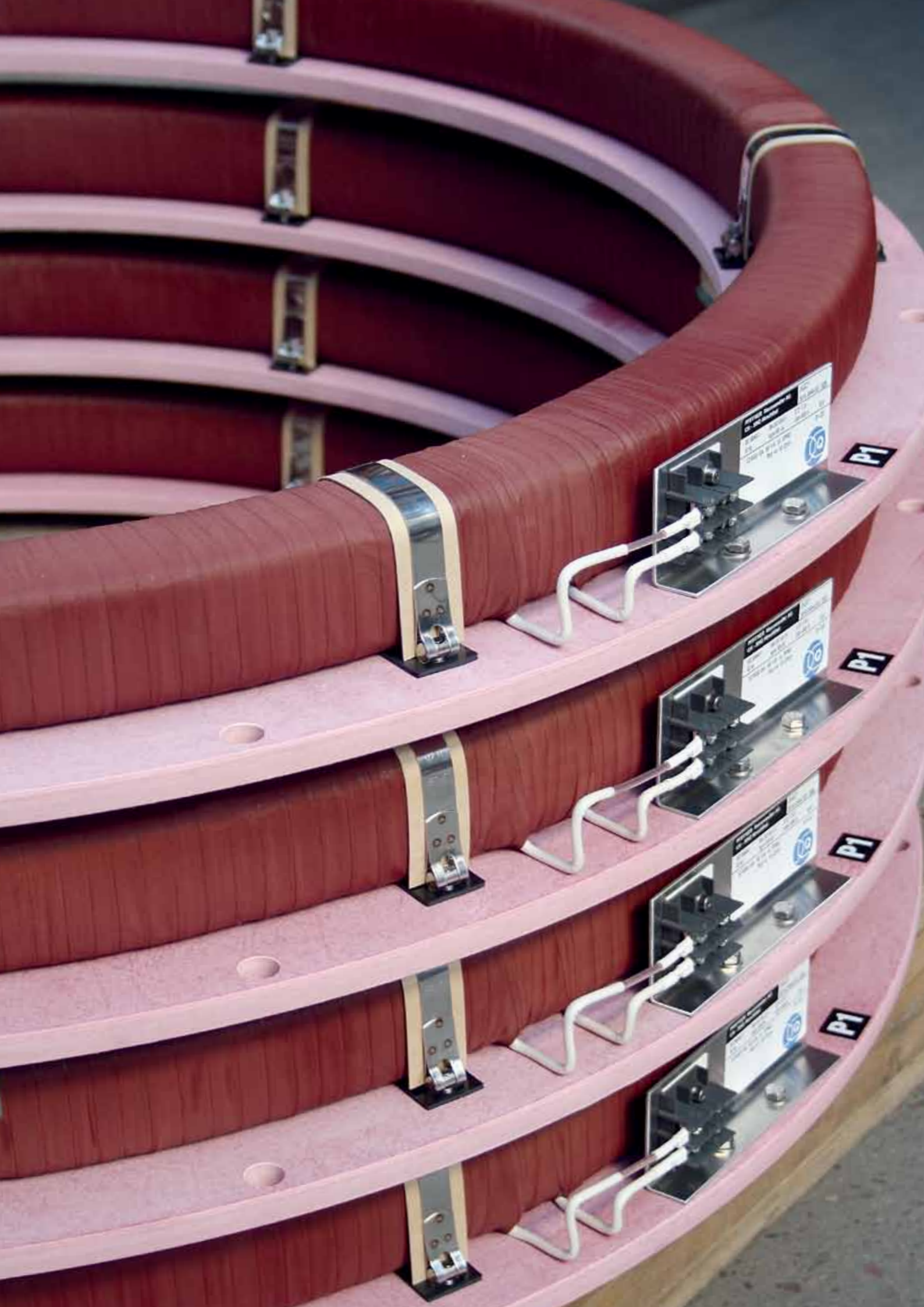
- Single-phase voltage transformer
- Free choice of mounting position
- Can be adapted to various GIS systems
- Compact design
- Gas loss < 0.2% per annum



EGK (72-170) kV

- Three-phase voltage transformer
- Free choice of mounting position
- Variable terminal box position
- Various burst-protection versions
- Gas loss < 0.2% per annum

GIS voltage transformers can be manufactured according to IEC, IEEE, GOST and other standards. A maximum of 5 secondary windings with accuracy up to class 0.1 are possible. Partial discharge is less than 1pC under test-voltage conditions.



High current transformers

Indoor operation



AKA

- Mounted in isolated-phase bus (IPB)
- Air-insulated installation
- Resin casted windings
- Primary current up to 50'000 A
- Available Ex-protected for Zone 2



ALG

- Mounted on insulated generator bushings
- Compact multiple core construction
- Primary current up to 50'000 A
- Available Ex-protected for Zone 2



JK-GCT

- Mounted on insulated generator bushings
- Board mounted single core
- Primary current up to 50'000 A



JKQ

- Mounted in generator switches
- Air-insulated installation
- Max. 3 cores on supporting tube
- Primary current up to 50'000 A



AKQ (12-36) kV

- Mounted on non-insulated conductor
- Cast resin insulated
- Multiple-core, with mounting plate
- Primary current up to 15'000 A



JKO

- Custom built ring core
- Hole diameters up to 1'200 mm
- Long junction wire available
- Primary current up to 50'000 A



Cable current transformers

Indoor and outdoor operation



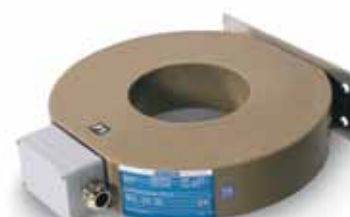
JK

- For indoor application
- Hole diameters up to 300 mm
- Various sizes available
- Primary current up to 5'000 A



JKS/JKS-S

- Split core CT
- For indoor application
- Hole diameters up to 220 mm
- Various sizes available (modular)
- Primary current up to 5'000 A



JKF

- For outdoor application
- Hole diameters up to 700 mm
- Various sizes available
- Primary current up to 15'000 A



JK-G/JKS-G

- Ring core or split core CT
- For outdoor application
- Hole diameters up to 225 mm
- Various sizes available
- Primary current up to 3'000 A



JLD (12-170) kV

- Porcelaine or silicone bushing available
- Can be equipped with several CT's
- Various versions for indoor and outdoor application
- Primary current up to 6'000 A



Support type CT's and VT's

Indoor operation



VD (12-72) kV

- Single-pole voltage transformer
- Small design
- Free choice of mounting position
- Up to 4 secondary windings
- Up to 1'500VA thermal limiting power



WD (12-36) kV

- Double-pole voltage transformer
- Small design
- Free choice of mounting position
- Up to 3 secondary windings
- Up to 1'500VA thermal limiting power



BD (12-72) kV

- Current transformer
- Small design
- Free choice of mounting position
- Up to 5 cores
- Primary current up to 2'000 A



AKP (12-36) kV

- Custom built current transformer
- Substitute for primary relays in medium-voltage cells
- Casted in resin
- Primary current up to 800 A

The resin casted medium voltage indoor CT's and VT's are typically used to fit in standard MV cabinets. Special requirements as high burden for VT's or capacitive tap for CT's can be offered. If required, measuring-calibration for different countries is available.

N

L1

L2

L3

50T6.1

Piffner Messwandler AG
Stromwandler
Current Transformer **TSC5**
800/5 A 12VA Cl. 0.5
2000.4288.01/8
Ø 72/3 LV 50/60 Hz IEC 2000

50T6.2

Piffner Messwandler AG
Stromwandler
Current Transformer **TSC5**
800/5 A 12VA Cl. 0.5
2000.4288.01/02
Ø 72/3 LV 50/60 Hz IEC 2000

50T6.3

Piffner Messwandler AG
Stromwandler
Current Transformer **TSC5**
800/5 A 12VA Cl. 0.5
2000.4288.01/45
Ø 72/3 LV 50/60 Hz IEC 2000

S1

S2

S1

S1

S2

Current and voltage transformers

Indoor operation



TSC

- Economical current transformer in polycarbonate/ABS shell
- Busbar fixation integrated
- Sealable secondary terminals
- Primary current up to 2'000 A



TGH/TGK

- Multi-range current transformer
- Polyurethane cast resin design
- For highest mechanical and physical demands
- Large measuring range up to accuracy class 0.2 S



TMAX/MG/TEMBREAK

- For use in compact low-voltage circuitbreakers 100-630 A
- Compact three-phase block CT's with voltage taps and neutral conductor feed-through
- Simple and quick installation



TGC/TGE/TGF/JKO

- Ring and busbar current transformer
- Ratio and inner dimension according to customer specification
- On request with mounting plate and primary busbar
- Primary current up to 5'000 A



TD/TKB/JLP

- Summation current transformer with 2-5 inputs
- Summation with identical or different ratios
- TD & TKB with mounting plate



ELP

- Voltage transformer
- Single-pole compact version resin casted in polyurethane
- Primary and secondary windings can be provided with taps
- Class 0.2 also possible



Swiss quality made by PFIFFNER

Each instrument transformer is subject to extensive routine tests during and at the end of the manufacturing process in order to comply with the given specification.

PFIFFNER can carry out power frequency withstand tests up to a test voltage of 700 kV, incl. partial discharge measurement. Lightning impulse withstand test voltages up to 1550 kV are possible.

Routine, type and various special tests such as temperature rise, mechanical, BIL, SIL, chopped wave, ferro-resonance, RIV and wet tests can be performed in our fully equipped laboratories.

Our laboratories are accredited according to the standard ISO/IEC 17025 as Testing Laboratory by the Swiss Accreditation Service (SAS) which is a member of ILAC (International Laboratory Accreditation Cooperation). The laboratories are also authorized by the Swiss Federal Office of Metrology METAS to perform Swiss Verifications on instrument transformers as a legal metrological procedure.

PFIFFNER is accredited according ISO 9001-2008 and ISO 14001-2004. As an additional internal rule to protect resources and environment, we work according OHSAS 18001.

PFIFFNER is an accredited member of ILAC - the International Laboratory Accreditation Cooperation - and is an active member in the international IEC Committee TC33 and TC38.

Global presence

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RHOMBERG

INSTRUMENTACIÓN Y ELECTRÓNICA INDUSTRIAL

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PFIFFNER

Current and voltage – our passion



HIGH VOLTAGE



MEDIUM VOLTAGE



LOW VOLTAGE