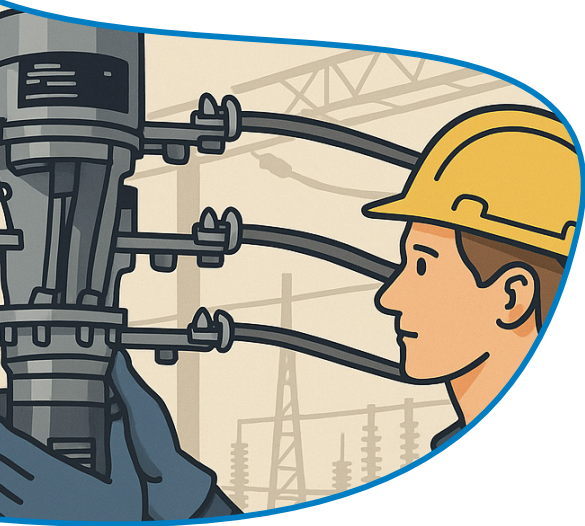




Optical Current Transformer (OCT) in High Voltage Switchgears



RELIABLE MEASUREMENT WITH POLARIZED CONTROL

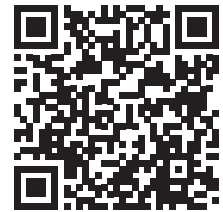
Optical Current Transformers (OCTs) are redefining current measurement in high-voltage switchgears. They provide galvanic isolation, compact design, and digital-ready output signals – clear advantages over conventional inductive and capacitive transformers. Yet developers face optical and environmental challenges that can affect measurement accuracy and system stability.

The result:

- Higher processing load
- Longer scan times
- Limited design freedom due to optical constraints

THE INTEGRATION CHALLENGE

OCTs use the Faraday effect, in which the polarization of light rotates proportionally to the magnetic field generated by the current. For precise and repeatable measurements, the light must maintain a stable polarization state throughout the optical path.



colorPol® Polarizers

IN PRACTICE

Integrating colorPol® polarizers in Optical Current Transformers provides developers with:

- **Stable polarization reference** → ensuring reliable current measurement over time.
- **High environmental robustness** → resistant to temperature cycling, vibration, and UV
- **Design flexibility** → compact integration without compromising optical performance.
- **Long-term consistency** → minimal recalibration and sustained accuracy in field operation.

The result is a high-performance OCT system that delivers dependable measurements and supports the transition toward fully digital switchgears.

WHY DEVELOPERS CHOOSE US

RELIABLE PERFORMANCE

Glass-based polarizers remain stable under UV exposure, humidity and cleaning cycles. Optical characteristics stay constant even after repeated sterilization.

EASY SYSTEM INTEGRATION

Produced on glass wafers, **colorPol**® elements are compatible with automated processes such as pick & place or bonding. This ensures precise assembly and efficient series production.

DESIGN FREEDOM

Custom wavelength ranges, polarization axes, shapes and AR coatings allow developers to design their system exactly as planned – without adjusting to component limits.

CONSISTENT QUALITY

In-house production and ISO 9001:2015-certified processes ensure reproducible optical performance and full traceability across batches.

LONG-TERM ECONOMY

High transmission and mechanical durability reduce recalibration, downtime and replacements, lowering total system cost.

colorPol® polarizers give developers freedom of design with reliable, long-lasting optical components made for integration and scalability.

codixx AG

Innovation in Glass – Reliability & Quality

We develop and produce high-precision, customized polarizers and substrates that set new standards. Our products stand for the highest quality, long-lasting performance, and reliable availability.

Manufactured in Germany and supported by stable supply chains, we offer our customers maximum planning security and reliability – even for demanding applications.



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