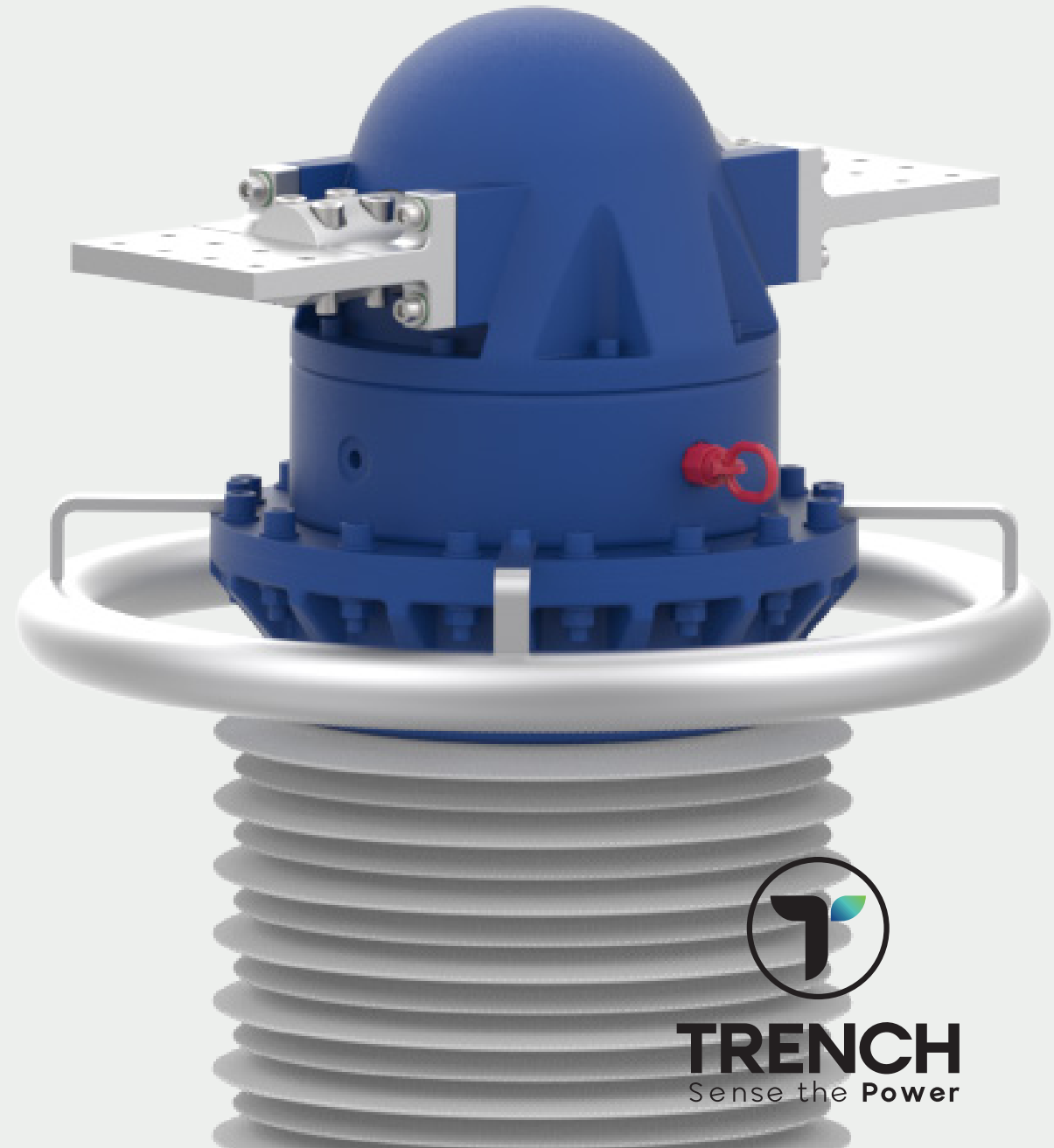


# OPTICAL CURRENT TRANSFORMER

800 kV / 4000 A

Trench Optical Current Transformers are a **revolutionary alternative to conventional current transformers**, providing an advanced solution for measurement and protection applications, based on cutting-edge optical sensing technology.



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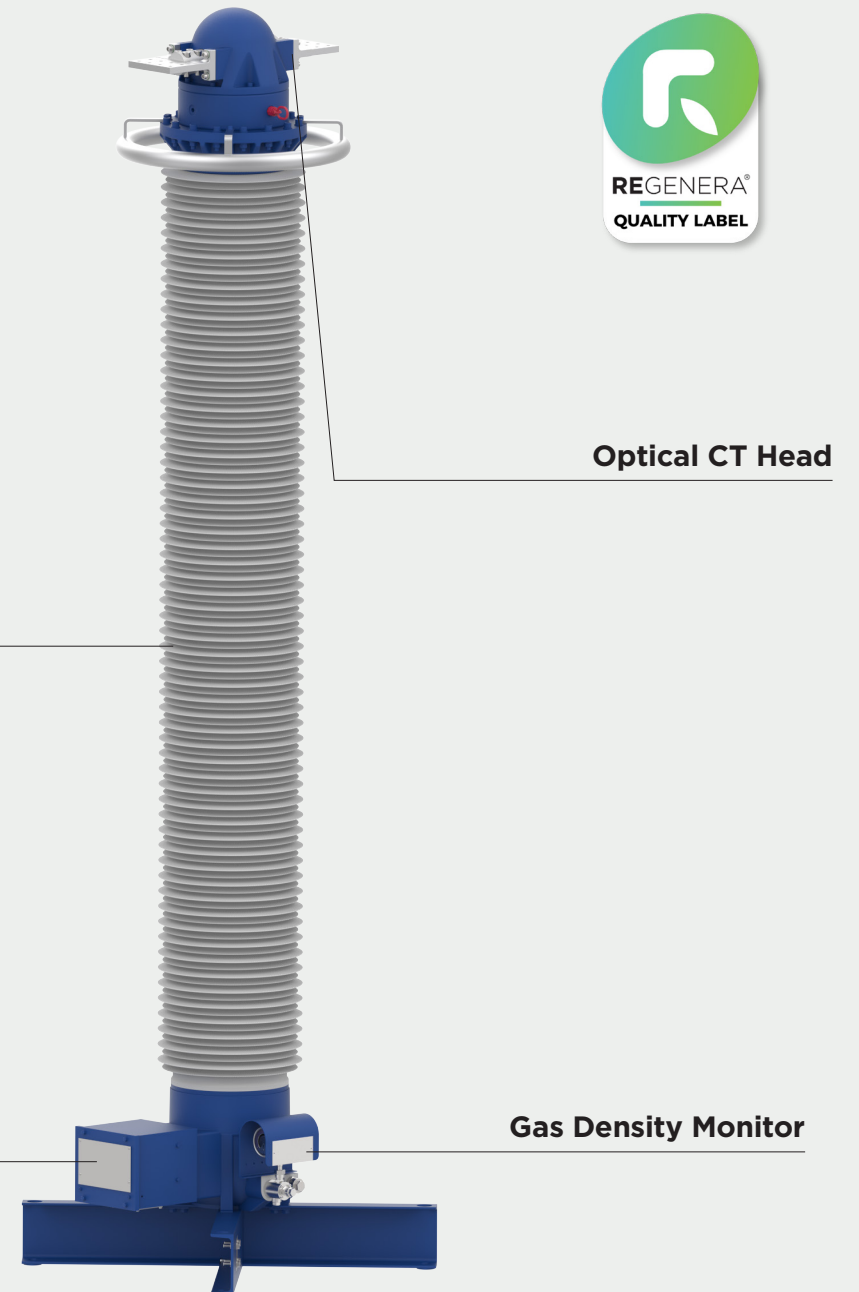
# OPTICAL CURRENT TRANSFORMER

## CHARACTERISTICS

- No ambient temperature limitation
- Filled with nitrogen compressed slightly above ambient pressure – to avoid ingress of moisture or other objects

## GENERAL

- Aluminum housing with glass ring sensors
- Insulators made of composite materials that can withstand mechanical stresses, including tensile, short-circuit, and seismic forces
- A connection box for attaching a TOCT to the station's fiber optic cables
- A signal processing unit, merging unit, containing a light source, photodetectors, and signal processing. It comes with up to three individual channels for measurement



# OPTICAL CURRENT TRANSFORMER

## APPLICATION AREAS

Suitable for low-temperature applications at -50 °C and below, In IEC 61850-9-2 compliant digital substations, thanks to digital “process bus” interface with long-distance fiber optic cable, which offers maximum flexibility for applications.

## SUSTAINABILITY

REGENERA® is Trench Group’s **Quality Label**, awarded to offerings that combine technical excellence with environmental responsibility.

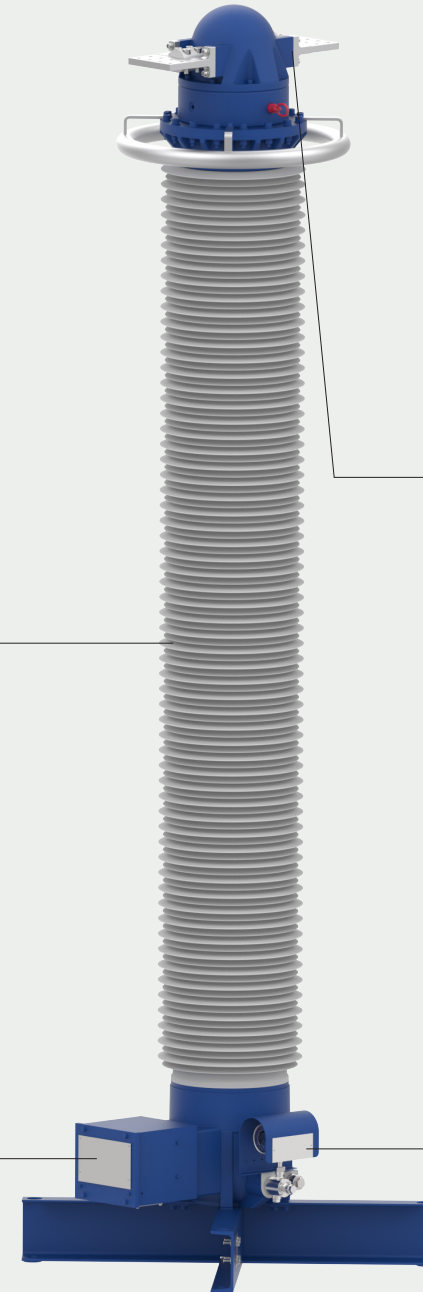
**Composite Insulator**



**Optical CT Head**

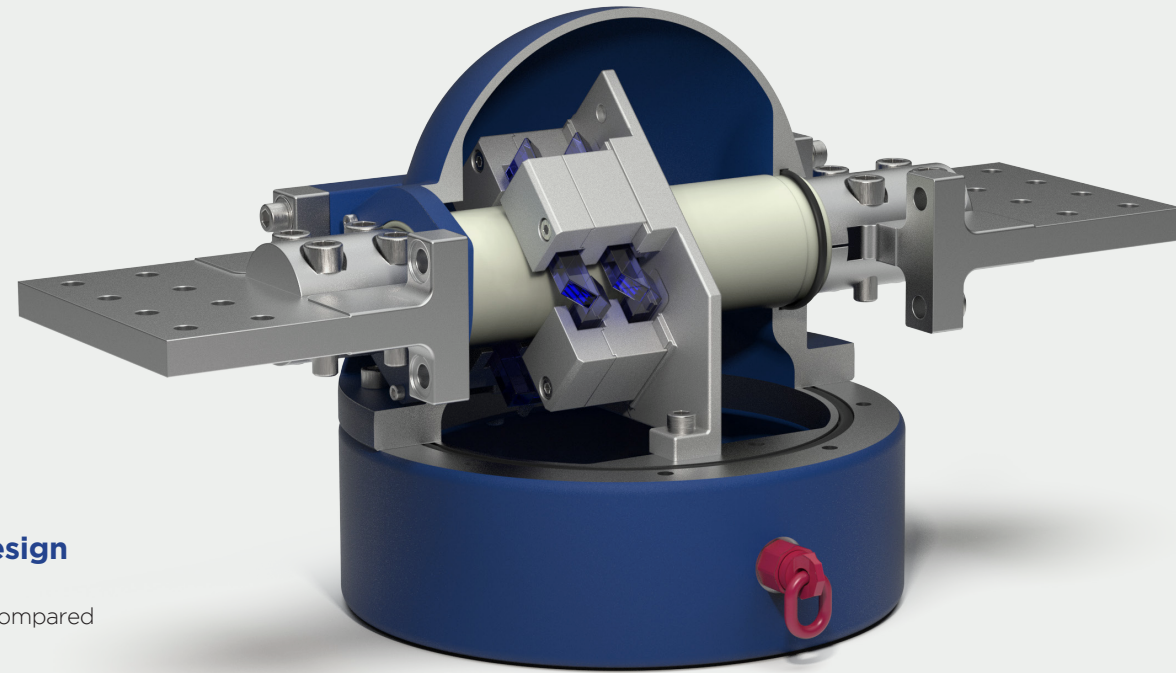
**Terminal Box**

**Gas Density Monitor**



# MAIN FEATURES

Trust in our tailor-made solutions for your unique needs



## Wide Application Range

Optical current sensor enables use of only one type of TOCT for a wide range of protection and measurement applications.



## Passive System

No electronic components needed within the TOCT.



## More Compact CT Design

Small and light-weight units compared to conventional CT design.



## Reduced Cabling Effort

Single fiber-optic cable instead of several copper cables with large cross-sections.



## Improved Operational Safety

Galvanic separation between primary and secondary side.



## GWP Of Zero for Insulation Gas

Zero CO<sub>2</sub> equivalent compared to 24.300 kg CO<sub>2</sub> equivalents by using conventional gas.



## Merging Unit 6Mu85 + IO245

Together with 6MU85, the IO245 forms the merging unit which provides an IEC 61850-9-2 interface with redundant digital connections to station bus, IEC 61850-8-1, and process bus, IEC 61850-9-2.



## Complete TOCT Set for A 3-Phase Installation

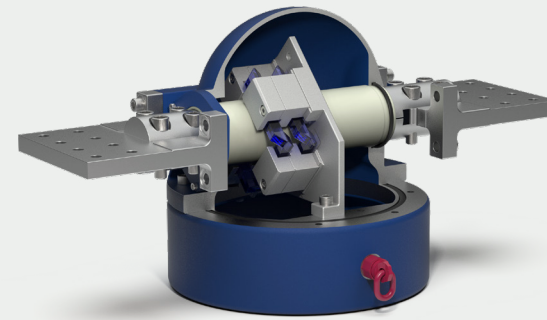
Contains three TOCTs, primary equipment, one 6MU85, base merging unit, one IO245, providing the interface to the TOCTs.

## APPLICATIONS

# INSIDE THE PRODUCT

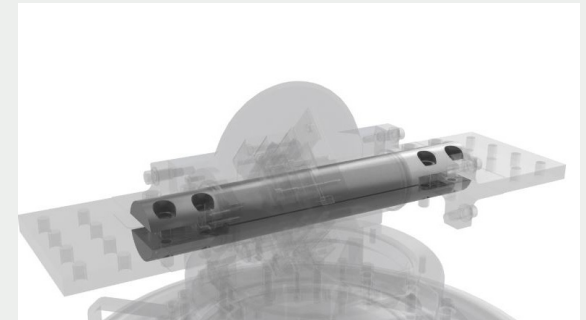
## Main components of the Optical Transformer

As a pioneer of innovation in the field of digital technologies in high-voltage switchgears, the powerful and durable Trench Optical Current Transformers do not require any harmful insulating medium.



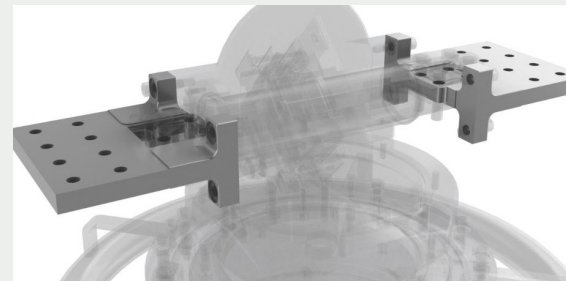
### **SIMPLIFIED INSULATION SYSTEM**

Eco-friendly without harmful insulators.



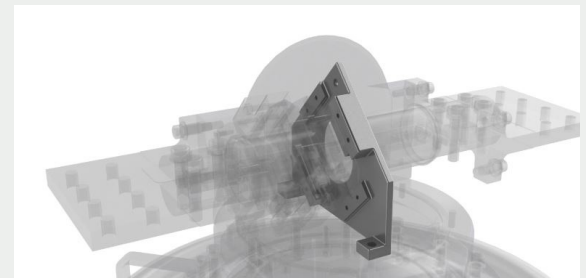
### **PRIMARY BAR**

Designed for high rated currents up to 6000 A. Compact but rigid design, suitable for short time currents, short circuits, up to 80 kA, rms, /Is



### **PRIMARY TERMINALS**

Customized HV-Connection, suitable for IEC, NEMA and others.



### **SUPPORT**

Support for optical current sensors specially designed to minimize vibration effects.

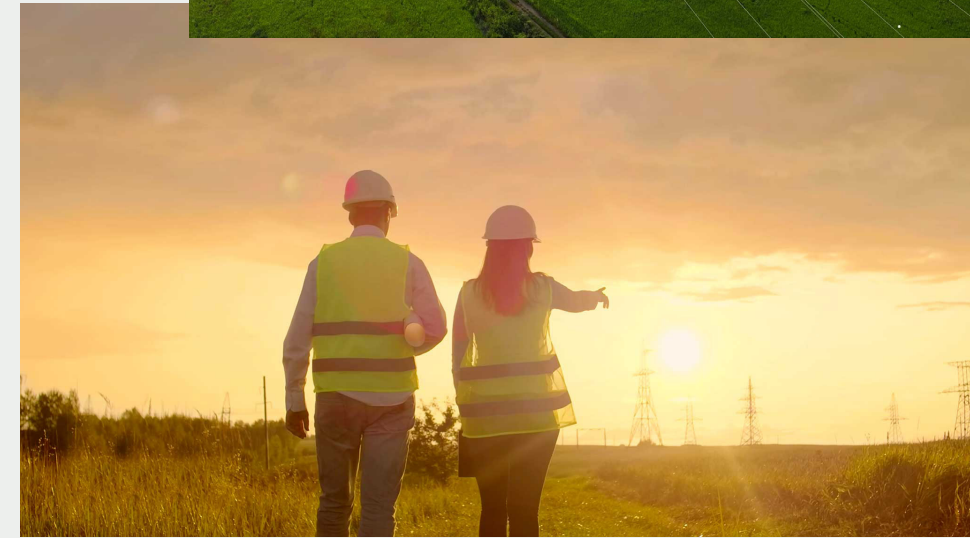
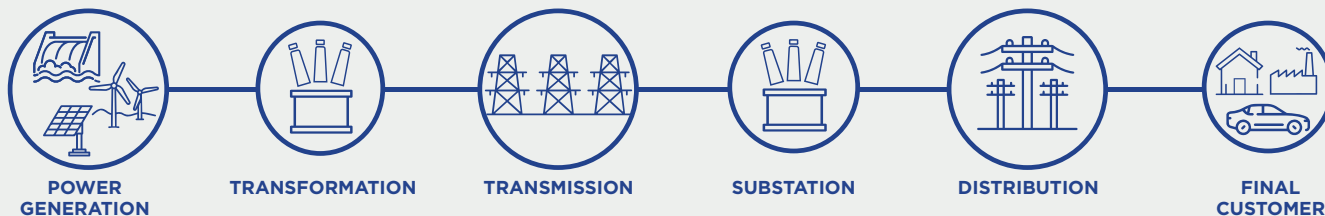


# THE **FUTURE** OF ENERGY IS **NOW** AND IT'S **EXTRAORDINARY**

## THE CRUCIAL ROLE OF POWER TRANSMISSION

**Our vision** of a sustainable future starts with an eco-friendly portfolio of high voltage products and systems, brought to you by our dedicated team of global innomakers.

**Our mission** is to support our customers, from power generation through transmission and distribution to the electricity consumers, in their transition to clean energy and a greener world.





**Get in touch:**

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