

## TRANSFORMER RECTIFIERS

### Oil-cooled, Type: TR-OC-01

Document No.: 02-201-R1

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German Cathodic Protection



#### Type: TR-OC-01

Oil-cooled transformer rectifiers are specially designed for safe, reliable and long operational lifetimes in harsh environments. The transformer rectifier components are housed in steel enclosures with separate sections for the oil tank and the control cabinet. The oil tank is a heavy-duty welded steel enclosure. Side walls made of specially corrugated steel sheets increase the cooling surface area. A top steel cover is bolted and sealed to the tank.

The oil tank is equipped with the following standard fittings:

- Oil filling cap and drain plug
- Thermometer with integrated oil level gauge
- Silica gel breather
- Earthing terminal
- Lifting lugs and rating plate

The main transformer, auto-transformer or thyristor module, rectifier and all components producing heat loss during operation are fixed on a fabricated steel rack, welded to the tank top cover and immersed in oil.

Located on the top of the oil tank, the control cabinet has hinged and lockable front and rear doors. Both doors can also be fastened in the fully open position.

Control and metering equipment is located at the front of the cabinet which also has a toughened glass windows for convenient meter reading.

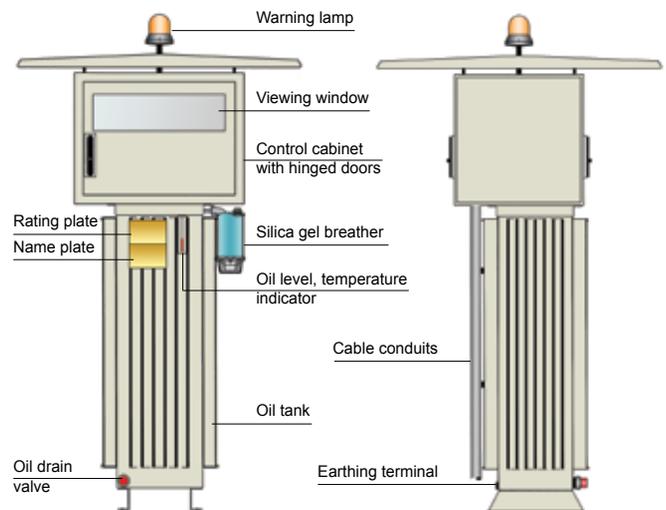
Test sockets are provided underneath each meter to allow for independent readings using portable meters. Hot dip galvanised steel conduits are installed on the rear for cable entry and fixing. The back part of the cabinet is used for the connection of surge diverters, circuit breakers, shunts, etc.

The transformer rectifier is supplied with a base frame and fixing bolts for plinth mounting. The control cabinets can also be supplied with sunshades.

A transformer rectifier comprises a main transformer, an auto-transformer or thyristor modules, a stack of selenium or silicon rectifiers and other auxiliaries/accessories such as protection devices, meters, switches, fuses, indicating lamps, enclosure, etc.

The transformer rectifiers are designed to meet the German Standards (DIN/VDE) and the Standards of the International Electrotechnical Commission (IEC), but can also be designed in accordance with other recognised Standards.

The transformer rectifiers are built for years of rugged service.



#### Options

- Corrocontrol Output Regulator (CCOR)  
*Further technical details can be found in Chapter 10 Document 10-100-R0*

The computerised output controller unit is equipped with a programmable micro-processor, which controls the functions of the transformer rectifier.

The following output control modes are selectable by on screen user menus:



- **Constant voltage mode**  
automatically maintains **DC output voltage** at a preset level. Level can be continuously adjusted from any value between zero and maximum rating
- **Constant current mode**  
automatically maintains **DC output current** at a preset level. Level can be continuously adjusted from any value between zero and maximum rating
- **Potential control mode**  
automatic control to maintain the **structure-to-electrolyte potential** at preset level in response by a signal from a reference electrode
- **Current Interrupter mode**

- Remote Monitoring and Control Systems (RMCS)

#### Technical data

AC input	single or three phase 230 V $\pm$ 10 %, 50 or 60 Hz single or three phase 400 V $\pm$ 10 %, 50 or 60 Hz other voltages or frequencies on request
DC output	up to 1000 A, up to 100 V, max. 10 kW
Control method	Standard: Constant voltage, stepless adjustment
Protection class	IP 55 acc. to IEC 529
Temperature	ambient temperature: max 55° C, min. -10° C
Transformer oil	acc. to DIN 57370, VDE 0370
Painting	galvanising of inner and outer surfaces finished in several coats of colour RAL 9010