Transformer Terminals RET 541/543/545

Protection, control, measurement and supervision
Protect two-winding power transformers and power generator-transformer blocks
Integrated voltage regulator
Ready for the harshest environments
Support a wide range of communication protocols

The RET 541/543/545 transformer terminals
bring reliability and better service to your distribution network and provide all the functions you need to protect and control your transformers. Their easy to use control panel and comprehensive communications and connectivity give you access to all the functions you need, whatever your application.

Terminal that meets your application
The RET 541/543/545 Transformer Terminals are designed for the protection, control, measurement and supervision of two-winding power transformers and power generator-transformer blocks in distribution networks. The terminals are loaded with functionality to suit your application. Besides the three-phase stabilized current differential function featuring 2nd and 5th harmonic restraint, the Basic version terminals incorporate three-phase overcurrent, non-directional earth-fault, restricted earth-fault, transformer thermal overload and phase unbalance protection.

The Multi version terminals further include overvoltage and undervoltage supervision, residual voltage and overexcitation protection, overfrequency and underfrequency protection, and underimpedance protection. Enhanced with an optional automatic voltage regulator function the terminal forms an integrated transformer management unit. A special Control version terminal with just voltage regulator and control functions is also available.

Protection that your network deserves
The power transformer represents one of the most valuable discrete units in your power distribution network, so do not compromise but specify a complete protection system. RET 541/543/545 terminals can also be used in harsh environments for example, in heavy industry, marine and offshore applications.
Supporting a wide range of communication protocols which are commonly used by utilities and industrial plants, the terminals are easily integrated into different control systems. A connectivity package for IEC 61850 based systems is also available.

An optional RTDI card provides versatile analog inputs for e.g. tap position supervision of an on-load tap changer, RTD inputs for transformer top and bottom oil temperature monitoring, and ambient temperature biasing for accurate thermal overload protection. The mA outputs allow users to transfer any measurement data to PLCs**.

* RTD – Resistance Temperature Detector, ** PLC – Programmable Logic Controller

** Supported communication protocols include IEC 61850, DNP 3.0, MODBUS RTU/ASCII, IEC 60870-5-103, MODBUS, SPA, LON®.

### Innovative technology

RET 541/543/545 transformer terminals are part of ABB’s substation automation concept and the RE500 series. Innovative solutions like IEC 61850 support and simultaneous dual port communication meet all your system requirements. The flexible connectivity caters for all your communications needs and helps to cover future demands. Their common configuration, setting and monitoring tools offer you yet another benefit: you only need to learn how to use one of our products, because all of our RE500 series protection relays and monitoring and control terminals use the same technology.

### You can download the connectivity package from [www.abb.com/substationautomation](http://www.abb.com/substationautomation)