

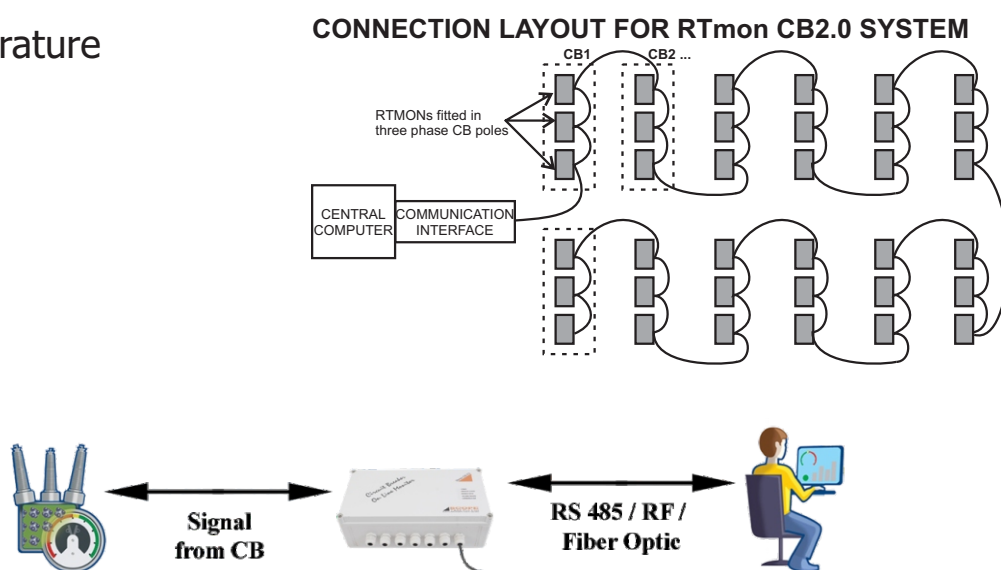
Continuously monitor the CB performance with RTMon CB



Real Time CB Monitor

First of its kind in the country, Rtmon is a powerful Real Time online condition monitoring system for continuous monitoring of circuit breaker in live EHV / UHV substation. Rtmon is configured using CTs and sensors. Performance parameters are stored in the on-board memory of the field unit and are transmitted to data acquisition system in control room through RS 485 or, RF or, Fibre Optic Communication. Further data can be sent to remote server. The field unit can be set to trigger on Change of Coil Current or, Auxiliary Contact change over. It can also generate the Alarm after comparison of the captured data with the set limits. Rtmon CB monitors following parameters of circuit breaker

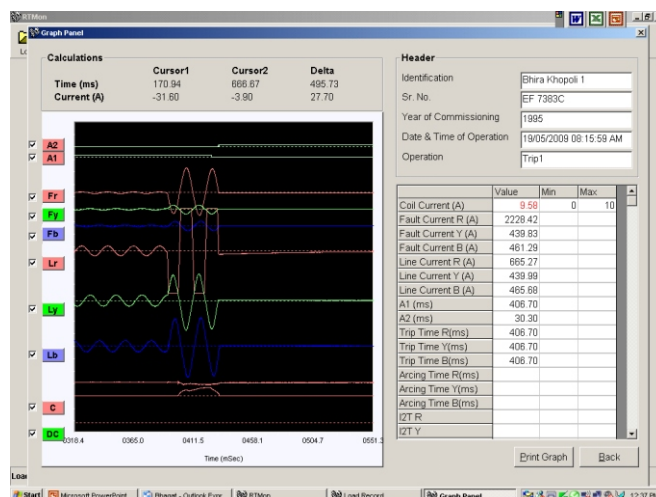
- ❑ Coil Current of Close, Trip 1 and Trip 2 coils using hall-effect CTs
- ❑ Line and Fault Current using clamp type CTs at main CT secondary
- ❑ Auxiliary Contact Time measurement
- ❑ Travel measurement of the CB Contacts (Depends on availability of travel transducer)
- ❑ Station DC voltage, continuous as well as during breaker operation
- ❑ SF6 gas density
- ❑ Air (Pneumatic) Pressure
- ❑ Hydraulic Pressure
- ❑ Spring Charging Motor Current and Charging Time during breaker operation
- ❑ Compressor / Hydraulic Pump Current
- ❑ Auxiliary AC Voltage
- ❑ Ambient Temperature



SOFTWARE

A special Data Acquisition System (DAS) is provided along with the Rtmon CB system which is installed in the Control Room PC. This System is continuously in communication with all the Field Units installed in the substation. The data from all the Field Units is collected in this DAS. The DAS has a MODBUS communication port, through which it communicates with the remote central server and can be accessed from different substations. After every breaker operation, the measurement data is stored in RTMon Field Unit and is transmitted to the DAS. Server based Software, which can access data from Data Acquisition System from different substations is also capable of detailed analysis of graphs and various other functions like:

- Display of recorded data, Comparison with Standard Limits and Alarm Generation
- Calculation of different parameters from graphs
- Comparison of current graphs with previous graphs for same operation
- Generation & Printing of reports
- Trend analysis of numerical data
- Back-up of the data
- Facility to set the Min. and Max. limits for the calculated parameters



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