

IEC 61850 CD complementing the Substation Automation Handbook



The **IEC 61850** standard is a communication standard for utilities which goes far beyond pure communication standardization. It delivers a standardized semantic presentation of the substation automation functions, their binding to the process, i.e. to the substation primary equipment, as well as standardized data exchange between engineering tools (of the same or different vendors). To understand the semantic modeling, knowledge about the application domain is necessary. For Substation Automation (SA) this knowledge can be found in the associated Substation Automation Handbook.

The latest development in the IEC standardization goes even beyond pure SA, as data model extensions for the usage in Hydro Power Plants (HPP), Distributed Energy Resources (DER) and Wind Power Plants (WPP) have been published as well and even more application domains are under investigation.

This CD extends the general IEC 61850 topics contained in the book regarding the specific application modeling of substation automation functions. It allows browsing the IEC 61850 data model. It replaces the original CD associated with the SA Handbook from 2004.

For understanding the material of this CD it is recommendable to study the book first. For IEC 61850 relevant chapters further explanation can be found on this CD. A hypertext document leads to all the material contained in this CD.

It consists of the pictures of the book in color, tutorials especially to IEC 61850, additional text explaining the relation between the IEC 61850 standard and the appropriate chapters. Some SCL processing functions illustrate the engineering with IEC 61850. These functions are mainly built on SCL examples contained also on this CD.

The engineering functions demonstrate how the SCL language can be used for IEC 61850 system documentation, communication engineering and maintenance. The availability calculation functions make the availability diagrams of the book alive, so that they can be adapted to user specific systems and figures. Interlocking can be studied by using the topology based interlocking functions on single line diagrams.

All material is structured according to the table of contents of the SA Handbook, to make parallel reading easier. The programs and additional material can be activated directly with the corresponding hyperlinks.

We thank all readers for their comments and observations which resulted in a correction table to the handbook also contained in this CD.

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