

14.1 Introduction

IEC 60870 part 5 is one of the IEC 60870 set of standards which define systems used for telecontrol (supervisory control and data acquisition) in electrical engineering and power system automation applications. Part 5 provides a communication profile for sending basic telecontrol messages between two systems, which uses permanent directly connected data circuits between the systems. The IEC Technical Committee 57 (Working Group 03) has developed a protocol standard for telecontrol, teleprotection, and associated telecommunications for electric power systems. The result of this work is IEC 60870-5. Five documents specify the base IEC 60870-5:

- IEC 60870-5-1 Transmission Frame Formats
- IEC 60870-5-2 Data Link Transmission Services
- IEC 60870-5-3 General Structure of Application Data
- IEC 60870-5-4 Definition and Coding of Information Elements
- IEC 60870-5-5 Basic Application Functions
- IEC 60870-5-6 Guidelines for conformance testing for the IEC 60870-5 companion standards
- IEC TS 60870-5-7 Security extensions to IEC 60870-5-101 and IEC 60870-5-104 protocols (applying IEC 62351)

The IEC Technical Committee 57 has also generated companion standards:

- IEC 60870-5-101 Transmission Protocols - companion standards especially for basic telecontrol tasks
- IEC 60870-5-102 Transmission Protocols - Companion standard for the transmission of integrated totals in electric power systems (this standard is not widely used)
- IEC 60870-5-103 Transmission Protocols - Companion standard for the informative interface of protection equipment
- IEC 60870-5-104 Transmission Protocols - Network access for IEC 60870-5-101 using standard transport profiles
- IEC TS 60870-5-601 Transmission protocols - Conformance test cases for the IEC 60870-5-101 companion standard
- IEC TS 60870-5-604 Conformance test cases for the IEC 60870-5-104 companion standard

IEC 60870-5-101/102/103/104 are companion standards generated for basic telecontrol tasks, transmission of integrated totals, data exchange from protection equipment & network access of IEC101 respectively.

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