

Distribution Network Automation 101 and 104



Overview

101 104 □ IEC 101 is an international standard protocol developed by the International Electrotechnical Commission (IEC) for telecontrol equipment and systems with a focus on reliable communication in electric power and industrial automation. □ It is primarily used in SCADA. If you are working with power grids, substations, or renewable energy management, you have likely encountered two acronyms: IEC 101 and IEC 104. But what exactly are they, and how do they differ?

More importantly, how can you deploy them easily?

1. Both belong to the IEC-60870-5 family, which defines how remote telecontrol data is exchanged for. Understanding IEC Communication Protocols: IEC 101, IEC 103, and IEC 104 In the domain of power system automation and telecontrol, communication protocols are fundamental to ensuring seamless data exchange and system reliability. IEC 101 is an older protocol that is simpler and less secure compared to IEC 104. IEC 104, on the other hand, is a more.



Article Content

Jan 01, 2026

Understanding IEC Communication Protocols: IEC 101,

Understanding IEC Communication Protocols: IEC 101, IEC 103, and IEC 104 In the domain of power system automation and telecontrol, communication protocols

Sep 16, 2025

IEC 60870-5-101/104 C Code Library IEC 104 | MZ

Efficient C library for IEC 60870-5-101 and IEC 104 protocols, supporting telecontrol with intuitive APIs, platform independence, and TLS security.

Apr 04, 2026

Protocol Manual IEC 60870-5-101/104 Communication

The link procedures are described in the standard IEC 60870-5-104/Part 5-104: Transmission protocols – Network access for IEC 60870-5-101 using standard transport profiles, Chapter 4 IEC 60870-5

May 25, 2026

What is IEC 104 Protocol?

IEC 104 contains various types of mechanisms to synchronize data in networks effectively. The IEC 60870-5-101 (short IEC-101) and IEC 60870-5

Mar 14, 2026

Distribution Automation Communication – InHand

Background The distribution automation communication system is the core of Distribution Automation (DA). The system includes SCADA, Feeder

May 21, 2026

Distribution Automation

Distribution Automation Distribution automation (DA) is a family of technologies, including sensors, processors, information and communication networks, and

Oct 12, 2025

Uncovering the Depths of IEC 60870-101 and IEC 60870-104:

By ensuring the efficient operation of electrical networks, these protocols are key to improving power distribution reliability. This post will highlight the unique features, applications, and

Aug 02, 2025

IEC 60870-5-101/104 – Electrical Engineering

This protocol is widely used in SCADA systems for monitoring and controlling substations, providing a reliable and standardized communication

Aug 03, 2025

Application of IEC60870-5-101 in distribution automation terminal ...

The characteristics, structure of extended remote operation and maintenance protocol based on IEC60870-5-101, the normal or abnormal communication process of remote maintenance

Mar 15, 2026

IEC 101 vs. IEC 104

IEC 101 is an older protocol that is simpler and less secure compared to IEC 104. IEC 104, on the other hand, is a more advanced protocol that offers improved security features and better performance.

Nov 01, 2025

101 BASICS SERIES

Network Distribution System Abbreviation for American National does not develop standards, but body for the purpose of encouraging adoption of worthwhile standards. Rules established by governing

Oct 30, 2025

IEC 101 AND 104 protocols TCP/IP and OSI | PPTX

Key differences between IEC 101 and IEC 104 are highlighted, particularly their use cases in SCADA systems and network communications. - Download as a PPTX,

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Improving performance of underground MV distribution networks using ...

Towards the complete vision of smart distribution grid, this paper presents a generic framework and strategy for the implementation of distribution automation system (DAS). Fault

Dec 27, 2025

The role of DNP3 and IEC104 in powering smarter grids

With the advent of smart grids, integration of renewable energy sources, and the deployment of advanced distribution management systems,

Jul 13, 2026

A Distribution Network Automation Communication Module Based

With the continuous development of power system, distribution automation technology plays an important role in improving power supply reliability and reducing operating costs. In order to

May 13, 2026

Comprehensive Between IEC 101 vs. 104

If you are working with power grids, substations, or renewable energy management, you have likely encountered two acronyms: IEC 101 and IEC 104. But what exactly are they, and how do they differ?

Dec 21, 2025

IEC-101 vs IEC-104 — Key Differences Explained

Clear technical comparison of IEC-101 vs IEC-104, explaining key differences, communication flow, and how IEC-101 to IEC-104 conversion works.

Apr 17, 2026

Protocol Manual IEC 60870-5-101/104 Communication REC615 and

IEC 60870-5-101 allows two alternative transmission procedures, an unbalanced and balanced, to be used in the communication between the controlling station (SCADA system) and the controlled

Sep 26, 2025

Power Grid Upgrade Through IEC 101/Modbus to IEC 104 Gateway

Our MGate 5114 protocol gateways can convert between IEC 60870-5-101 and IEC 60870-5-104, making it easy for operators to monitor legacy systems in substations for the power dispatch center.

Jun 19, 2026

IEC 60870-5-104 DNP3 IEC 101 Protocol FreyrSCADA

FreyrSCADA Embedded Solution is dealing with Substation Automation Protocols and Embedded Systems. We have the products like Windows based Simulator,

Jun 26, 2026

Microsoft Word

Georges Simard is a senior engineer of the Distribution Network Development for Hydro-Québec's Distribution Strategic Planning. This department is responsible for defining the future technical

May 09, 2026

Research on the Impacts of Distribution Network Automation on the ...

As the social economy grows swiftly and the need for electricity escalates, the dependability of the power supply within the distribution network has garnered increasing interest. The deployment of

Jan 09, 2026

Assessing the contribution of automation to the electric distribution ...

As this automation process lies in the use of non-ideal communication channels, their latency and availability are considered. In order to complete the analysis from an experimental

Dec 20, 2025

Distribution Automation | Introduction, Benefits, and

Distribution Automation (DA) is a collection of technologies like sensors, processors, communication networks, and switches that help utilities collect.

Oct 24, 2025

Distribution Automation Design Guide, 3

This Distribution Automation (DA) architecture is a fundamental part of any Cisco network, providing enhanced, end-to-end security from the control center all the way to the edge of the distribution

Contact Us

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