

GPRS-based Distribution Network Automation Monitoring System



Overview

In this paper we propose a GPRS (General Packet Radio Service) based monitoring and control system which is able to reduce the cost of damaged transformer replacement. Its operation data is an important part of the basic data of the whole distribution network. Therefore, it is necessary to monitor its operating parameters and status. With that. Slovenian distribution system operator, Elektro Primorska from Nova Gorica, started distribution grid automation back in 1997. Main goal of remote control disconnecter switches is to insure in time protection and disconnection of power line. GPRS is a new wireless data transmission service developed on the existing GSM system, with the purpose of providing high-speed wireless IP or X125 services to mobile users. The theoretical bandwidth of GPRS can reach 171. TCP/IP. Distribution system automation is the use of modern electronic technology, communication technology, computer technology and network technology to integrate information on the distribution network online and offline data, distribution network data and user data, power grid structure and geographic. running state exercises a great influence on the stability of the network.



Article Content

Jan 15, 2026

GPRS based distribution transformers monitoring system

With that motivation, several prototypes of the proposed monitoring system are successfully employed in Zanzan distribution network. The contributions are observed to be highly

Jun 23, 2026

The Transformer Station Remote Monitoring System Based on ARM/GPRS Network

This thesis describes a system which builds up a wireless, real-time, multi-object remote monitoring system of electric equipment depending on GPRS network of China Mobile

Mar 20, 2026

GPRS-Based Monitoring for Transformers | PDF | Computer Network ...

GPRS-Based Monitoring for Transformers This document presents a design for a remote wireless monitoring system for power distribution transformer stations using GPRS technology.

May 03, 2026

Architecture Deployment for Application of Advanced Distribution ...

The recent technological innovations, related to advanced measurement and automation infrastructures, and even sophisticated computational intelligence mechanisms, create opportunities

Jul 13, 2025

Research of wireless monitoring system in power distribution ...

The scheme of remote wireless monitoring system for power distribution transformer station based on GPRS wireless network was designed in this paper.

Feb 02, 2026

Remote monitoring system design of power substation based on GPRS

Abstract. This paper studies the design scheme of a substation remote monitoring system based on GPRS, and gives the solution about poor real-time and imperfect function of centralized substation

Jun 24, 2026

Distribution Automation

Distribution network automation refers to the combination of modern electronic technology, communication technology, computer network technology with power system equipment, integrating

Aug 13, 2025

GPRS-Based Grid Automation | PDF | Scada

GPRS-Based Grid Automation The document discusses Elektro Primorska's automation of its distribution network using GPRS communication. It describes: 1)

Dec 26, 2025

Power Automation System Based on GPRS / CDMA Wireless

After entering the 21st century, with the accelerating process of urbanization, the distribution network is gradually evolving to the distribution network automation structure. The data of

Sep 13, 2025

Design of distribution network automation based on GPRS

In the communication of the distribution network monitoring system, digital radio, GSM short message, GPRS, fiber optic access and other methods can be used.

Nov 02, 2025

Think Topics | IBM

Network Use network security solutions to protect network infrastructure, resources and traffic from internal and external security threats and cyberattacks. Understand how to distribute network traffic

Mar 22, 2026

(PDF) Distribution Automation: Enhancing Efficiency and

Opportunities for distribution automation, such as enhanced reliability, improved operational efficiency, enhanced data collection and analysis,

May 13, 2026

Real-Time Monitoring System for Transformer Based on GSM

Abstract. For real-time monitoring and data acquisition applications of distribution transformer, the paper put forward to wireless sensor network embedded system based on GSM, which can real-time

Mar 29, 2026

Automation of distribution network based on GPRS

This paper presents a system which works on a wireless, real time, multi-object monitoring system of Distribution Transformer depending on GPRS network. A

Mar 13, 2026

Cost Effective AMR and System Energy Distribution Using GPRS and

Abstract— This system solves the existing problems regarding energy distribution and monitoring. It monitors the meter readings continuously. A Power Line Communication (PLC) based modem is

Oct 29, 2025

Automation of distribution network based on GPRS communication

Looking into a way to improve the data collection a new project was launched by the end of the 2010. The new project is based on using the existing GPRS/EDGE mobile communication

Jan 16, 2026

Gprs based distribution transformers monitoring system

In this paper we propose a GPRS (General Packet Radio Service) based monitoring and control system which is able to reduce the cost of damaged transformer replacement.

Jun 20, 2026

Research on County-level Distribution Network Automation System

This paper designs and analyzes the implementation of distribution network automation system based on GPRS technology, which is a beneficial attempt to implement distribution network automation.

Mar 20, 2026

Study on New Smart Transformer Terminal Unit Based on ARM and

running state exercises a great influence on the stability of the network. Transformer Terminal Unit (TTU) is an effective device to monitor the running state of transformers in the distribution automation

Nov 20, 2025

Design of distribution network automation based on GPRS

It adopts the latest technology of power object development, distributed, open system structure, and integrates functions such as power dispatching automation, distribution network automation and

Jun 03, 2026

The Design and Development of Urban Distribution Automation System ...

Through GPRS system - based networking analysis of the four selected GPRS - based corporate public network connected to the Internet as the networking of the system .

Jul 03, 2025

Distribution monitoring system based on GPRS

Its operation data is an important part of the basic data of the whole distribution network. Therefore, it is necessary to monitor its operating parameters and

Aug 13, 2025

AUTOMATED MONITORING AND REPORTING

The research is based on microcontroller monitoring of low voltage fuse and GSM based reporting of the blown fuse, neutral failure and transformer

Sep 13, 2025

(PDF) GPRS-Based Electrical Energy Monitoring System

The whole system can make the data acquisition and communication system for distribution network unattended, low costs and low maintenance costs

Sep 24, 2025

Secure and Reliable GPS-Based Time Distribution

II. GPS SUMMARY GPS is one of the most widely available Global Navigation Satellite Systems (GNSSs) in use today. The free availability of this technology has improved many applications, which

Aug 20, 2025

Formal Modeling of IoT-Based Distribution Management

The major challenges that existing distribution management systems are facing, maintaining constant power loads, user profiles, centralized

Jun 24, 2026

Remote data collection system for distribution network based on GPRS ...

Abstract A new remote data acquisition system for distribution network was proposed and experimented in this paper.

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