Distribution Network Automation System Point Table



Overview

Distribution Automation Design Guide, 3 These features enable Distribution Automation (DA) operations by coordinating field devices, specialized software.

Key Takeaways

A DNAS point table catalogs all measurement, control, and status points in a distribution automation system, including analog, digital, and control points for feeders, transformers, and substations.

Overview of DNAS Points

A Distribution Network Automation System (DNAS) point table is a structured list of all the data points monitored or controlled within a distribution network. These points are essential for SCADA integration, automation, and real-time monitoring of the distribution system ( ).

Types of Points

Analog Points (AI/AV)Measure continuous variables such as voltage, current, power, frequency, and temperature. Examples: feeder current, transformer winding temperature, bus voltage ( ). Digital Points (DI/DV)Represent binary states such as breaker status, switch position, or alarm conditions.

Examples: circuit breaker open/closed, recloser status, capacitor bank on/off ( ). Control Points (DO)Used to send commands to devices for automation or remote control. Examples: open/close feeder breakers, switch capacitor banks, operate voltage regulators ( ).

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Status/

Alarm Points

Indicate abnormal conditions or events in the network. Examples: overcurrent alarm, transformer overload, feeder fault detection ( ).

Typical Point Table Structure

A DNA

S point table usually includes the following columns: ColumnDescriptionPoint IDUnique identifier for each pointDevice/LocationSubstation, feeder, transformer, or capacitor bankPoint TypeAnalog, digital, control, or statusSignal DescriptionMeasurement or control functionUnitsVolts, Amps, kW, kVAr, or binary stateSCADA AddressMapping to SCADA or automation systemAlarm/ThresholdOptional limits for triggering alarmsIntegration with Distribution AutomationPrimary Substations: Points include high-voltage and medium-voltage measurements, breaker statuses, and transformer tap positions ( ). Feeders: Points include feeder current, voltage, breaker status, and fault indicators ( ).

Secondary Substations/

Industrial Consumers: Points may include transformer load, voltage regulation, and capacitor bank control ( ).

Best Practices

Standardize point naming conventions for clarity and interoperability. Include both real-time measurements and control points for automation. Map points to SCADA or DMS systems for monitoring, control, and historical data logging ( ).

In summary, a DNAS point table is a comprehensive reference for all analog, digital, and control points in a distribution network, enabling effective automation, monitoring, and management of substations, feeders, and connected loads. Properly structured point tables are critical for SCADA integration, fault detection, and operational efficiency.

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Article Content

Distribution Automation Design Guide, 3

These features enable Distribution Automation (DA) operations by coordinating field devices, specialized software, and dedicated communication networks. This coordination allows the system to

Distribution Automation Handbook

In the following, the distribution power transformer features, construction and protection and their influence to the complete distribution system performance are discussed.

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The part of the electric utility system which is between the distribution substation and the distribution transformers is called the primary system. It is made of circuits known as primary feeders or primary

Appendix B Project Drawing List

Location and details of accessories (current transformers, temperature monitors, valves, ...)

Distribution Automation Handbook

The handbook describes various power distribution system constructions and elements there-of, technical considerations, distribution automation infrastructure and functionality, communication

Configuration

Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security

Using BBMD to Communicate Across Multiple Subnets

Depending on how the Ethernet system is managed on a given site, it''s not always easy to tell if a BBMD is required by looking at the IP address of the device itself. If the Ethernet Default

Planning of Electric Power Distribution

Consistent communication systems can be used to connect power supply / distribution systems and products to other installations such as automated process and production systems or automated

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Distribution System Automation

Automation in the distribution field allows utilities to implement flexible control of distribution systems, which can be used to enhance efficiency, reliability, and quality of electric service.

Routers and SD-WAN appliances

Cisco SD-WAN Routers and WAN Appliances provide end-to-end management and flexibility for your WAN and cloud network.

Corporate

Emerson delivers leading automation solutions and technology to help industries innovate for a safer, smarter and more sustainable world.

OneUptime | The Open-Source Observability Platform

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Distribution networks reliability assessment considering distributed ...

Motivated by all the previously mentioned points, the ultimate goal of this research is to enhance the operation of MV distribution networks using a distribution automation system.

Distribution Automation

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

Accessible Automation for Point Solutions in Distribution

Warehousing Robotics Accessible Automation for Point Solutions in Distribution Evaluating the tremendous volumes of information required from many dozens of automation options

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Distribution Automation: Enhancing Efficiency and Reliability in Power ...

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

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

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