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Relay Protection Device 4n



Overview

The IBF 4N is a digital overcurrent protection relay designed for use in generator breaker failure protection schemes.

Key Takeaways

A 4N relay protection device is a relay module with four contacts, designed for controlling electrical circuits, providing safety functions, or integrating with automation systems.Overview

A 4N relay typically refers to a device with four contacts, which can be normally open (N/O) or normally closed (N/C), used to control or protect electrical equipment. These relays are widely used in industrial automation, plant control, and safety circuits to operate contactors, valves, signal lights, or other devices reliably .

Types and Features
• WWC-4N Relay Box
• Contains four potential-free changeover contacts.

• Operates with 230V AC supply and 12V DC control voltage.

• Equipped with status LEDs for monitoring operating conditions.

• Housed in a robust IP66/IP68-rated enclosure, protecting against dust and water.

• Compatible with evaluation units like WWA-1, 82b-2, 82c-2, 83sigma, 84vario .

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• Safety Relay Expansions (e.g., PNOZsigma)
• Provides 4 N/O and 1 N/C contacts for expanding safety relay outputs.

• Operates at 24V DC with plug-in screw or spring-loaded terminals.

• Used in emergency stop, safety door, and light curtain monitoring.

• Can be cascaded to increase the number of contacts for complex safety circuits .

• Protective Relays
• Designed to detect abnormal conditions such as overcurrent, overvoltage, or faults in power systems.

• Can be electromechanical or digital (microprocessor-based).

• Digital relays can combine multiple protection functions, provide self-testing, and interface with SCADA systems.

• Operate by tripping circuit breakers or initiating alarms to protect equipment and ensure safety .

Applications
• Industrial Automation: Controlling motors, valves, and signal devices.

• Safety Systems: Emergency stops, light curtains, and safety doors.

• Power System Protection: Detecting faults and abnormal conditions in electrical networks.

• Integration with Control Units: Works with evaluation modules for complex automation and monitoring setups.
Key Considerations
• Contact Type: Ensure the relay has the required N/O or N/C configuration.

• Voltage Ratings: Match the relay's supply and control voltage to your system.

• Safety Standards: For safety relays, check compliance with EN ISO 13849 or equivalent.

• Environmental Protection: IP ratings indicate suitability for dust and water exposure.

• Expandability: Some modules allow cascading to increase the number of contacts.
A 4N relay protection device is versatile, combining control, safety, and protection functions in a compact module suitable for industrial and electrical applications.

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Article Content

SEB IBF 4N digital overcurrent protection relay User manual

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ANSI device numbers

In electric power systems and industrial automation, ANSI Device Numbers can be used to identify equipment and devices in a system such as relays, circuit breakers, or instruments. The device numbers are enumerated in ANSI/IEEE Standard C37.2 Standard for Electrical Power System Device Function Numbers, Acronyms, and Contact Designations. Many of these devices protect electrical systems and individual system components from damage whe

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Protection Relay

In the design of electrical power systems, the ANSI Standard Device Numbers denote what features a protective

Table of ANSI IEEE Standard Device Numbers

This table details ANSI IEEE Standard Device Numbers as used for protective relaying in North America. Suffixes for numbers are

Protective relay

Electromechanical protective relays at a hydroelectric generating plant. The relays are in round glass cases. The rectangular devices

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ANSI Standard Device Numbers & Common Acronyms

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Protective Relay Basics

Traditionally, protective relays were electromechanical devices that utilized induction disk, coils, contacts, and solenoid elements to

ANSI (IEEE) Protective Device Numbering

The widely used United Sates standard ANSI/IEEE C37.2 ''Electrical Power System Device Function Numbers,

Decoding ANSI Codes for Protection Relays

Protective devices such as relays and circuit breakers use ANSI codes to represent their function and features. Think

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SV Relay —The SEL-487E-5 relay offers transformer protection and can also receive SV data from devices such as SEL SV merging

Protection Relays

Compact medium voltage protection relays From overcurrent to advanced protection, these easy-to-use protection relays (formerly

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Relay control and protection guides

Protection Relays The relay is a well known and widely used component. Applications range from classic panel built

Comparison of Protection Relay Types

This comparison summarize characteristics of all protection relay types described in previously published technical

Relay and Device Number List

The document lists over 100 device numbers and acronyms used for protective relays and devices in power systems. The numbers

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Understanding Protective Relays in Power Systems

Protective relays are critical components in power systems, providing essential protection for various elements such

What is Protection Relay?

A protection relay is a crucial component of electrical systems that safeguard infrastructure, employees, and

Relays Part 4: The Protective Relay Basic Theory

From protection to power flow control and so on, relays have proved to be compulsory devices in many power

Types of Protective Relays

This article covers various types of protective relays, such as overcurrent, directional, and differential relays, highlighting their

Types and Revolution of Electrical Relays

Types and Revolution of Electrical Relays Introduction: Protective relays work in concert with sensing and control devices to

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A Guide to ANSI/IEEE Function Numbers

According to the ANSI/IEEE standards, device function numbers are crucial identifiers in power system protection and

Exploring the Significance of Protection Relays ...

Introduction: Protection relays are essential for maintaining the reliability and safety of electrical systems. The 50,

Protection relay selection table

Protection relay selection table Please note before using selection table! number = Number of stages, shots, X =

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