Color of indicator lights for relay protection devices



Overview

IEC 60204-1 Wiring Color Codes and Indicator Light Standards While IEC 60204-1 provides international guidance and UL 508A specifies certain requirements.

Key Takeaways

Relay protectors typically use red, yellow, and green indicator lights to signal faults, phase issues, or normal operation.

Color Meanings

Red Light: Indicates a fault condition such as phase loss, voltage imbalance, or out-of-phase connections. When the red LED is illuminated, the relay may be released or tripped to protect the equipment. In some models, the red light flashes during a time delay before the relay activates.

Yellow Light: Signals a wrong phase sequence or phase connection issue. It serves as a warning that the phase order of L1, L2, and L3 is incorrect, and corrective action is needed before normal operation can resume. Green Light: Indicates normal operation.

When the three-phase wiring is correct and voltage levels are within limits, the green light is on, and the relay remains closed, allowing the equipment to operate safely.

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Operational Notes

During normal operation, the green light is on. If a phase sequence is incorrect, the yellow light illuminates, and the relay may not engage until the phases are corrected. For phase loss or voltage imbalance, the red light turns on, and the relay trips to prevent damage.

Some relay protectors include a time delay, during which the red LED may flash before the relay fully trips. These color-coded indicators provide a quick visual reference for operators to identify the status of the relay protector and take appropriate action to maintain safe operation of three-phase equipment.

Article Content

IEC 60204-1 Wiring Color Codes and Indicator Light Standards

While IEC 60204-1 provides international guidance and UL 508A specifies certain requirements, many manufacturers maintain proprietary color specifications. This reference

How Indicator Lamps Work: Types and Color Meanings

Master the engineered system of indicator lamps. Discover how color and light type standardize critical operational status and warnings.

Did you know...? | Control Colors according to IEC

Find out which colors your control buttons & indicator lights should have according to IEC 60204-1:2016 for safe and standardized machine operation

IEC 60073: Red for DC Fail Indicators | PDF | Light Emitting Diode

The document outlines the IEC 60073 standard for color coding indicator lamps in switchgear and control panels, specifying that red is used for DC supply failure (DC FAIL) to indicate danger or fault.

Guide to Industrial Indicator Lights: Colour, Mounting

Use red for emergencies, green for normal operations, and yellow for caution to prevent mistakes. Proper mounting ensures visibility and accessibility.

IEC Distribution Panel Indicator Light Colors and Wiring Standards ...

IEC standards for distribution panel indicator lights: wire colors, light color meanings (red for danger/on, green for safe/off), CB configurations for 3-phase indicators, and EN60204-1 references.

Light Overview

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3 Purple LED lights at the top of the Talk button, indicates that the device is in Do Not Disturb (DND) mode, connected but unable to send and receive messages while DND is on

Color Coding for pushbuttons, indicator (pilot) lights, and illuminated ...

Color Coding for pushbuttons, indicator (pilot) lights, and illuminated pushbuttons from NFPA 79 Industrial Machinery

Relay LED indicator

LEDs can have different colors, depending on the relay types. Timer relays can be equipped with two LEDs: one to indicate the presence of power supply, the other to indicate energizing the relay coil.

panel indicator color scheme

I am not sure what exactly a "light plant" does, but in many cases in commercial applications you can define the color scheme however you want. There are traditional color schemes

Relay Indicator Light WorkPrinciple & Fault Detection

This article describes in detail the working principle of the relay indicator light and the troubleshooting method when the fault indicator light. Rean more about it.

How to Use Indicator Light Color Standards?-Led Indicator

How to Use Indicator Light Color Standards Color Coding for indicator (pilot) lights. Color Picture Typical Function Examples RED Danger or alarm,

What do the different colors of the indicator light mean?

Indicator Lamp or Indicator Light is a widely used in the ship, machine tools, machine equipment, switch cabinet, power distribution cabinet. Indicator lamp, also name pilot lamp, who to

What Is a Semaphore Indicator? Complete Guide (2025)

While some manufacturers use “semaphore indicator” to describe multi-segment stackable tower lights (also called signal columns or stack lights),

Understanding safety functions: Indicators and alarms

Indicator lights and displays should follow standardized colours and provide clear information to operators. Flashing lights and displays can be used for emphasis, and illuminated

A Complete Guide to Pilot Lights (Power Indicator Lights)

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Pilot lights, also called indicator lights, are small panel-mounted lights specifically designed to indicate the operating status of multiple electric and

Indicator Lights: Types, Benefits, and Color Meaning

From LED to neon, every type has specific functions in different industries. Indicator lights facilitate reliability and accuracy in machines and

How To Choose the Right Push Buttons/Pilot Light''s Color for Your ...

The color code for the indicator lights is the same as for the other non-illuminated buttons. In case of difficulties in assigning an appropriate color, neutral WHITE should be used.

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

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