

PLC cabinet wiring color standard



Overview

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

Key Takeaways

PLC cabinet wiring uses standardized color codes to identify AC/DC circuits, protective earth, neutral, and control wiring, ensuring safety and consistency in industrial automation systems.

Protective Earth and Neutral

- Protective Earth (PE): Always green-and-yellow, with a 70/30 distribution over any 15mm length if insulated, or applied at accessible points if the wire is otherwise hidden. This ensures clear identification of grounding conductors throughout the system .

- Neutral (N): Light blue is used exclusively for neutral conductors in AC circuits to prevent confusion with other wiring .

AC and DC Circuit Wiring

- AC Circuits:

- Phase conductors typically use black, brown, grey, or white for lower voltages, and red, yellow, dark blue, or violet for higher voltages .

- Neutral remains light blue.

- DC Circuits:

- Positive DC conductors are usually red or white.

- Negative DC conductors are black or blue.

- Grounded DC conductors may be white with a blue stripe .

Control and Safety Circuits

- Ungrounded control circuits operating at supply voltage: black.
- Ungrounded AC control circuits below supply voltage: red.
- Ungrounded DC control circuits: blue.
- Safety circuits: Often purple to indicate emergency or interlock functions .
- External power sources or interconnects: yellow.
- Battery circuits that remain energized when main power is off: orange .

HMI and Status Indicators

- System stopped: Green/red combination.
- System running: Red/green combination.
- System tripped: Yellow.
- System disabled or not in operation: Grey.
- Manual restart required: Blue .

Best Practices

- Always verify wire function with a meter, as colors may fade over time .
- Follow local electrical codes and international standards (EN 60204-1, IEC 60445, UL508A) for compliance .
- Maintain consistent color coding across multiple machines to simplify troubleshooting and maintenance . Using these standardized color codes ensures safety, reduces errors, and improves efficiency in PLC cabinet wiring and industrial automation systems.

Article Content

PLC Cabinet Wiring Standards: IEC 60204-1 Guide | SENTRADO

Complete guide to IEC 60204-1 wiring standards for PLC control cabinets: grounding, shield termination, cable

Wire control panel

What do you need to consider when wiring main and control circuits according to UL 508A? Cable colors, cable cross-sections,

Control Cable Color Codes and Their Meanings

Color coding ensures proper installation, simplifies maintenance, and enhances safety by reducing the risk of wiring

Cable Colours Technical Information Sheet no. 12

Cable Colours in Machines Technical Information Sheet no. 12 The introduction of EN 60204-1 Safety of Machinery — Electrical

Related Video Reference

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