

Southwire MC-PCS Duo Power and Control/Signal Cable

Southwire MC-PCS Duo Power and Control/Signal Cable User Manual

Model: MC-PCS Duo Power and Control/Signal Cable

1. INTRODUCTION

This manual provides essential information for the proper installation, use, and maintenance of the Southwire 12/2 Solid 16/2 Solid x 250 ft. MC-PCS Duo Power and Control/Signal Cable. Please read this manual thoroughly before beginning any work to ensure safe and effective operation.

The Southwire MC-PCS Duo cable is designed for combining power/lighting circuits with Class 2 or Class 3 signal or control circuits within a single cable assembly. This product meets the National Electrical Code (NEC) and UL listing requirements for such applications.

2. IMPORTANT SAFETY INFORMATION

WARNING: Risk of Electric Shock. Installation should only be performed by qualified personnel in accordance with all applicable national and local electrical codes.

- Always disconnect power at the circuit breaker or fuse box before installing or servicing electrical wiring.
- Ensure all connections are secure and properly insulated to prevent short circuits and electrical hazards.
- Do not exceed the specified voltage and current ratings for this cable.
- Protect the cable from physical damage during and after installation.
- Wear appropriate personal protective equipment (PPE), including safety glasses and insulated gloves, when working with electrical systems.
- Consult local building codes and regulations for specific requirements regarding cable installation.

3. PRODUCT OVERVIEW

The Southwire MC-PCS Duo cable integrates both power and control/signal conductors within a single interlocked armor. This design simplifies installation and reduces the need for multiple cable runs.



Figure 1: Illustration of the Southwire MC-PCS Duo cable. The image displays a cross-section of the cable, revealing its metallic interlocked armor with a yellow stripe, and the internal conductors. Visible conductors include a blue, white, black, and green wire, indicating both power and control/signal components.

3.1 Key Features and Applications

- **Integrated Design:** Combines 12/2 Solid power conductors and 16/2 Solid control/signal conductors in one cable.
- **Versatile Use:** Suitable for branch power distribution in commercial, industrial, institutional, and multi-residential buildings.
- **Lighting and Control:** Ideal for power, lighting, control, and signal circuits, including luminary applications with 0-10V dimming in LED lighting systems.
- **Installation Flexibility:** Can be fished or embedded in plaster, and used in both concealed or exposed installations.
- **Code Compliant:** Meets NEC and UL listing requirements for combining different circuit types.

4. INSTALLATION INSTRUCTIONS

Follow these general guidelines for installing the Southwire MC-PCS Duo cable. Always refer to local electrical codes and the NEC for specific requirements.

4.1 Pre-Installation Checklist

- Verify that the cable type and size are appropriate for the intended application and load requirements.
- Ensure all necessary tools and connectors are available.
- Confirm that power to the installation area is safely disconnected.

4.2 Installation Steps

1. **Route the Cable:** Carefully route the MC-PCS Duo cable along the intended path, ensuring it is protected from sharp edges, excessive bending, and potential damage.
2. **Secure the Cable:** Secure the cable using appropriate straps, clamps, or hangers at intervals compliant with local codes and manufacturer recommendations.

3. Terminate Conductors:

- Carefully strip the outer armor and insulation from the conductors at the termination points.
- Connect the 12/2 Solid power conductors (typically black, white, and bare ground) to the power circuit terminals.
- Connect the 16/2 Solid control/signal conductors (typically blue and green, or as per specific application) to the control or signal circuit terminals.
- Ensure all connections are tight and secure.

4. **Grounding:** Ensure proper grounding of the cable armor and all connected equipment as required by code.

5. **Testing:** After installation, perform continuity and insulation resistance tests to verify proper wiring and absence of faults before restoring power.

6. **Restore Power:** Once all checks are complete and safe, restore power to the circuit.

5. OPERATING PRINCIPLES

The Southwire MC-PCS Duo cable functions as a conduit for both electrical power and low-voltage control/signal transmissions. Once properly installed and connected to a power source and control devices, it facilitates the intended electrical and communication functions.

- **Power Conductors:** The 12/2 Solid conductors deliver electrical power to connected loads, such as lighting fixtures.
- **Control/Signal Conductors:** The 16/2 Solid conductors transmit low-voltage signals, commonly used for dimming controls (e.g., 0-10V dimming) or other control applications.
- **Integrated Functionality:** The cable's design allows for simultaneous power delivery and signal transmission, streamlining wiring for systems requiring both.

6. MAINTENANCE

The Southwire MC-PCS Duo cable is designed for long-term reliability with minimal maintenance. However, periodic inspection is recommended to ensure continued safe operation.

- **Visual Inspection:** Periodically inspect exposed sections of the cable for any signs of physical damage, such as cuts, abrasions, or crushing.
- **Connection Integrity:** Ensure that all connections remain tight and free from corrosion.
- **Environmental Protection:** Verify that the cable is not exposed to conditions beyond its rated environmental specifications (e.g., extreme temperatures, excessive moisture) unless specifically designed for such environments.
- **Cleaning:** If necessary, clean the exterior of the cable with a dry cloth. Do not use harsh chemicals or abrasive materials.

7. TROUBLESHOOTING

This section addresses common issues that may arise during or after the installation of the MC-PCS Duo cable. Always ensure power is disconnected before attempting any troubleshooting steps involving live circuits.

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
No power to connected device.	Circuit breaker tripped. Loose or incorrect power conductor connection. Damaged power conductor.	Check and reset the circuit breaker. Inspect and re-secure power connections. Test continuity of power conductors; replace cable if damaged.
Control/signal not functioning (e.g., dimming not working).	Loose or incorrect control/signal conductor connection. Damaged control/signal conductor. Incompatible control device.	Inspect and re-secure control/signal connections. Test continuity of control/signal conductors; replace cable if damaged. Verify compatibility of control device with 0-10V or other signal type.
Cable overheating.	Overload on the circuit. Improper installation (e.g., insufficient ventilation).	Reduce load or verify circuit sizing. Ensure proper installation practices are followed, allowing for heat dissipation.

If issues persist after following these steps, contact a qualified electrician or Southwire customer support.

8. TECHNICAL SPECIFICATIONS

Attribute	Detail
Product Name	Southwire 12/2 Solid 16/2 Solid x 250 ft. MC-PCS Duo Power and Control/Signal Cable
Model	MC-PCS Duo Power and Control/Signal Cable
Brand	Southwire
ASIN	B0B6WLFYL2
Power Conductors	12 AWG Solid (2 conductors + ground)
Control/Signal Conductors	16 AWG Solid (2 conductors)
Length	250 ft.
Material	Copper conductors, Metallic Interlocked Armor
Color	Yellow (stripe on armor)
Voltage Rating	600 Volts (DC)
Compliance	NEC, UL Listed
Package Dimensions	18 x 18 x 8 inches
Package Weight	35.8 Pounds

9. WARRANTY AND SUPPORT

For specific warranty information regarding your Southwire MC-PCS Duo cable, please refer to the official Southwire website or contact Southwire customer service directly. Southwire stands behind the quality and performance of its products.

Manufacturer: Southwire

Contact Information: For technical support, product inquiries, or warranty claims, please visit the [Southwire Store on Amazon](#) or the official Southwire corporate website.

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Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question