Standard cable tray connectors

Overview

Cable Tray Connectors | McMaster-CarrChoose from our selection of cable tray connectors, including cable and hose trays, steel formable cable and hose tray.

Key Takeaways

Cable tray connectors must ensure mechanical strength, electrical continuity, and compatibility with tray types, following industry standards such as NEMA VE 1/2 and ASTM specifications.Connector Types and Functions

Cable tray connectors are used to join sections of cable trays, maintain alignment, and provide structural support. Common types include:

• Splice Plate Connectors: Flat plates bolted across tray ends to join straight sections.

• Couplers: Integral or external devices that connect tray ends quickly, often used in modular systems.

• Expansion Joint Assemblies: Allow for thermal expansion and contraction in long tray runs.

• Adjustable Bends and Risers: Facilitate changes in direction or elevation while maintaining cable support .
Material and Finish

Connectors are typically made from steel, stainless steel, or aluminum, with finishes selected based on environmental conditions:

• Hot-dip galvanized steel (ASTM A123, A653) for corrosion resistance.

• Electrodeposited zinc coatings (ASTM B633) for indoor applications.

© 2026 ALFA PRO COMMUNICATION SYSTEMS (Pty) Ltd - All rights reserved

• Stainless steel (AISI 316L) for high-corrosion environments.

• Aluminum connectors provide a lightweight, corrosion-resistant alternative .
Mechanical and Electrical Requirements
• Load Capacity: Connectors must support the tray's rated load, considering span and cable weight.

• Rung Spacing: Typically 6–9 inches (150–230 mm) to maintain cable support and prevent sagging.

• Electrical Continuity: Connectors should maintain grounding and bonding across tray sections, ensuring safe current paths and minimizing electromagnetic interference .

• Installation: Fastening methods include bolts, clips, or Swiftclip systems, designed for quick assembly while maintaining strength and alignment .
Standards and Compliance
• NEMA VE 1: Metallic cable tray system standards.

• NEMA VE 2: Installation guidelines for cable trays and connectors.

• ANSI/NFPA 70 (NEC): Electrical code compliance.

• ASTM Standards: A123, A653, A1011, A1008, B633 for material and coating specifications .
Installation Considerations
• Field verification of dimensions and routing is required before installation.

• Submittal drawings should include all connectors, clamps, brackets, and fittings with accurate scaling.

• Product data must specify materials, finishes, fitting radii, and inside depths to ensure compatibility with the selected cable tray system . By following these specifications, cable tray connectors provide structural integrity, electrical safety, and ease of installation, ensuring reliable cable management in industrial, commercial, and data center environments.

© 2026 ALFA PRO COMMUNICATION SYSTEMS (Pty) Ltd - All rights reserved

Article Content

Cable Tray Connectors | McMaster-Carr

Choose from our selection of cable tray connectors, including cable and hose trays, steel formable cable and hose trays, and more.

Tray Cable Connectors | WireAndCableYourWay

We stock Type TC Tray Cable Connectors in a variety of sizes and materials. Find the right ones for your next project. Order today

Cable Connectors | McMaster-Carr

Choose from our selection of cable connectors, including conduit, raceway, and wire duct, cord grips, and more. Same and Next Day

Cable tray fittings and accessories

Cable tray fittings are essential components used to connect, support, and transition cable trays through

Document DICOS

Attaching a channel cable tray by using the method illustrated in Figure 3-88 maintains the electrical requirements, and the bolted

Cable Tray Technical Guide A practical guide to product selection

SOLID-BOTTOM CABLE TRAY Providing additional cable protection, solid-bottom cable tray is sometimes preferred to support and

GUIDE CABLE TRAYS TECHNICAL

The various standards STANDARD IEC 61 537 “INTERNATIONAL ELECTROTECHNICAL CONTRACTORS STANDARD FOR

CABLE TRAY SYSTEMS GUIDE

The total load supported by the cable tray, uniformly distributed. This will be the combined weight of all of the cables or tray contents,

Standard Cable Tray Types and Fittings

This document describes the types, materials, dimensions, and fittings for standard cable tray systems. It outlines ladder, perforated,

Practices for grounding and bonding of cable trays

© 2026 ALFA PRO COMMUNICATION SYSTEMS (Pty) Ltd - All rights reserved

If a wire mesh cable tray is supporting cable with a built-in equipment grounding conductor or

Cable Tray Dimensions Guide: Standard Sizes, Tray

Explore standard sizes by tray type, understand width and depth limits, and see how to

Cable Tray Technical Guide A practical guide to product selection

SOLID-BOTTOM CABLE TRAY Providing additional cable protection, solid-bottom cable tray is sometimes preferred to support and

Cable Tray Installation and Cable Handling Method Statement

3. Cable Tray Support Locations Cable tray supports should be strategically positioned so that connectors between horizontal

Eaton

Eaton

INSTALLATION GUIDE

Center hung tray supports allow for quicker and easier cable installation by allowing cables to be deposited into tray systems from

Cable tray fittings and accessories

Cable tray fittings are essential components used to connect, support, and transition cable trays through

Document DICOS

Attaching a channel cable tray by using the method illustrated in Figure 3-88 maintains the electrical requirements, and the bolted

Cable Tray Technical Guide A practical guide to product selection

SOLID-BOTTOM CABLE TRAY Providing additional cable protection, solid-bottom cable tray is sometimes preferred to support and

GUIDE CABLE TRAYS TECHNICAL

The various standards STANDARD IEC 61 537 “INTERNATIONAL ELECTROTECHNICAL CONTRACTORS STANDARD FOR

CABLE TRAY SYSTEMS GUIDE

The total load supported by the cable tray, uniformly distributed. This will be the combined weight of all of the cables or tray contents,

© 2026 ALFA PRO COMMUNICATION SYSTEMS (Pty) Ltd - All rights reserved

Standard Cable Tray Types and Fittings

This document describes the types, materials, dimensions, and fittings for standard cable tray systems. It outlines ladder, perforated,

Cable Tray Connectors | McMaster-Carr

Choose from our selection of cable tray connectors, including cable and hose trays, steel formable cable and hose trays, and more.

Tray Cable Connectors | WireAndCableYourWay

We stock Type TC Tray Cable Connectors in a variety of sizes and materials. Find the right ones for your next project. Order today

Cable Connectors | McMaster-Carr

Choose from our selection of cable connectors, including conduit, raceway, and wire duct, cord grips, and more. Same and Next Day

Cable Tray Connectors | McMaster-Carr

Choose from our selection of cable tray connectors, including cable and hose trays, steel formable cable and hose trays, and more.

Tray Cable Connectors | WireAndCableYourWay

We stock Type TC Tray Cable Connectors in a variety of sizes and materials. Find the right ones for your next project. Order today

Cable Connectors | McMaster-Carr

Choose from our selection of cable connectors, including conduit, raceway, and wire duct, cord grips, and more. Same and Next Day

Related Video Reference

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

© 2026 ALFA PRO COMMUNICATION SYSTEMS (Pty) Ltd - All rights reserved

Contact Us

Continue your research online:

Website: https://alfa-pro.co.za
Technical inquiry: https://alfa-pro.co.za/contact.html

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

© 2026 ALFA PRO COMMUNICATION SYSTEMS (Pty) Ltd - All rights reserved