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Explanation of Optical Cable Model Numbering Method



Overview

Fiber Optic Basics Optical fibers are circular dielectric wave-guides that can transport optical energy and information.

Key Takeaways

Optical cable model numbers are structured codes that convey the cable's type, reinforcement, structure, protective layers, and fiber characteristics.Structure of Optical Cable Model Numbers

Optical cable model numbers are alphanumeric codes that provide detailed information about the cable's design and application. Typically, a model number is divided into several parts:

• Classification Code: Indicates the general type and application of the cable. Common codes include:
• GY: Outdoor (field) optical cable for communication

• GR: Soft optical cable for communication

• GJ: Indoor optical cable for communication rooms

• GS: Optical cable for communication equipment

• GH: Submarine optical cable

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• GT: Special optical cable

• Reinforcement Member Code: Specifies the material used to reinforce the cable:
• No symbol: Metal reinforcing member

• F: Non-metallic reinforcing member

• G: Metal heavy-duty reinforcing member

• H: Non-metallic heavy-duty reinforcing member

• Structural Feature Code: Describes the internal structure of the cable:
• D: Fiber ribbon structure

• B: Flat structure

• T: Filled structure

• G: Skeleton groove structure

• Z: Self-supporting structure

• Protective Layer Code: Indicates the type of sheath or armor:
• Y: Polyethylene sheath

• V: Polyvinyl chloride sheath

• U: Polyurethane sheath

• A: Aluminum-polyethylene adhesive sheath

• L: Aluminum sheath

• G: Steel sheath

• Q: Lead sheath

• S: Steel-aluminum-polyethylene composite sheath

• Outer Sheath and Armor Layer: Often represented by numbers indicating the presence or type of armor and the outer layer material. For example, in GYGZL03:
• GY: Outdoor optical cable

• G: Metal heavy-duty reinforcement

• Z: Self-supporting structure

• L: Aluminum sheath

• 03: Polyethylene sleeve without additional armor

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• Fiber Count and Type: Some model numbers also include the number of fibers and fiber type, such as 864F SM, where:
• 864F: 864 fibers

• SM: Singlemode fiber

Practical Use

Understanding these codes allows engineers and installers to:

• Select the correct cable for indoor, outdoor, or submarine applications

• Determine mechanical strength, environmental protection, and installation requirements

• Identify fiber type, count, and structural features for splicing and network design By decoding the model number, users can quickly assess the cable's suitability for specific environments, mechanical loads, and transmission performance, ensuring reliable optical network deployment.

Article Content

The FOA Reference For Fiber Optics

The cable had a very long line of printing on it with lots of interesting and useful information. So before we started deconstructing it,

FOA Tech Topics

(Individual fiber cable runs will be specified by number of fibers and cable type (riser, plenum, indoor-outdoor, etc.) required by the

Optical cable model meaning and optical cable

For communication engineers, they often come into contact with fiber optic cables. At this

Fiber Optic Cable Naming System

For cordage, value indicates outside diameter; otherwise additional description. Cordage. For Outside Plant Cables, this field

Fiber Optic Cable Models

To facilitate differentiation and use, A unified code has been established for fiber optic cables. This article will delve

Cable Identification System Best Practices for Fiber Optic Networks

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The TIA-606-B standard sets the foundation for cable identification in fiber optic networks. This system uses color

TIA-598-C

It defines identification schemes for fibers, buffered fibers, fiber units, and groups of fiber units within outside plant and premises

What do the letters and numbers on a cable model number represent?

The alphanumeric codes printed on cable jackets are not arbitrary markings. They represent a highly standardized

Different Types of OPGW Cable Code Naming Rules | OPGW

Learn the naming rules of different OPGW cable types, including fiber count, structure codes (B1, B2, D), and technical

DIN VDE 0888 Cable Designation Guide | PDF | Optical Fiber

It provides explanations of abbreviations used to designate different cable construction features, including the cable type (indoor,

BEC701

An optical Fiber is a thin, flexible, transparent Fiber that acts as a waveguide, or "light pipe", to transmit light between the two ends of

TIA-598-C

The Telecommunications Industry Association ''s TIA-598-C Optical Fiber Cable Color Coding is an American National Standard that

Cable Identification System Best Practices for Fiber

Cable identification best practices for fiber optic networks: use TIA-606-B standards, durable

Optical Fiber Types

Nomenclature For Optical Fibers And Cross Reference To International Standards Singlemode Fiber Types There are several

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Fiber Optics and Types

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In this article, we will discuss Optical Fiber/Fiber Optics in detail. What is Fiber Optics? Fiber optics refers to the

FIBER OPTICAL COMMUNICATIONS (R17A0418)

Introduction Fiber-optic communication is a method of transmitting information from one place to another by sending pulses of light

Fiber Optic Cable Types – Multimode and Single Mode

The Optical Core – a glass tube (core) propagates the light signals through the fiber cable. Glass is inherently reflective and is a

Classification of Optical Fiber (The Complete Guide 2020)

The official definition of optical fiber is optical fiber, a fiber made of glass or plastic, which can be used as a light transmission tool. In

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Topic: Optical Fiber Table of Contents: The FOA Reference Guide To Fiber Optics Optical Fiber Fiber Optics is the communications

Wire and Cable Labeling 101: How To Read Manufacturer Labels?

Wire and cable labeling is an essential characteristic of cables that allows you to choose the best product for your

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Click on this blog to understand the various Types of Optical Fibre based on the material used, the number of modes

Fiber Optics: Understanding the Basics

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Understanding and Selecting Optical Fibre and Cable

In this document, the relationship between the cable features, followed standards, test parameters, and acceptance criteria are

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Fiber Optic Color Code: Comprehensive Guide

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Optical Cable Company''s new numbering syst

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BASICS OF OPTICS AND OPTICAL FIBER COMMUNICATION

An optical fiber is a glass or plastic fiber designed to guide light along its length. Fiber optics is the overlap of applied science and

Fiber Optic Cable Naming System

Position 2: Fiber Count - P- 012 -DS-5L-F SU AQ Total Fiber Count - xxx variable in catalog number Position 3: Cable Construction -

Overview of optical fibres standardization

3. Conclusion Optical fibres are characterized by many parameters, some of which are subject to standardization, as well as the

Fiber Color Code: A Simple Guide for Beginners (2024)

Therefore, we can quickly identify fiber optic cables that contain only one cable type by color. However, when the

DIN VDE 0888 Cable Designation Guide | PDF | Optical Fiber

The document discusses cable type codes according to the German standard DIN VDE 0888-3. It provides explanations of

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Fiber Color Code Guide | Fiber Optic Cable Color Coding Standards

Learn the complete fiber color code guide. Understand fiber optic cable color coding standards and charts to simplify

Fiber optic cable color coding explained

This guide brings the main fiber optic cable color coding standards together in one place, with the full sequences and

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