

# **Intelligent type of ODN passive device for mining**





## Overview

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An Intelligent ODN fuses electronic labels/QR codes, high-dynamic-range smart OTDR, and a unified management platform (GIS + topology + data governance). The result: faster mean-time-to-repair (MTTR), higher first-time fix, and traceable changes—without relying on customer-side. ODN footprints are exploding with FTTx, 5G back/fronthaul, and data-center access. Traditional maintenance—handwritten labels, scattered spreadsheets, and single-purpose tools—struggles with slow fault localization and unreliable records. In case of any existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI deliverable is the one made publicly available in PDF format at Users of the present document should be aware that the document may be subject. Disclosed in the present invention are an intelligent optical distribution network (ODN) device management system and method applied to an ODN. The ODN network devices provide the optical fiber interconnection or cross-connection, optical fiber splicing, optical power distribution/wavelength distribution, and optical path. In the present document "shall", "shall not", "should", "should not", "may", "need not", "will", "will not", "can" and "cannot" are to be interpreted as described.



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# Light ODN Builds a Visual, Manageable, and Easy-to-Maintain ODN

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By combining the NMS of the ODN with the element management system (EMS) of the OLT, Light ODN creates an end-to-end fully visualized PON network that serves as an intelligent foundation of all

## The Intelligent ODN Passive Solution

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The intelligent ODN passive solution is based on the traditional wiring equipment, by adding the electronic chip of the device port and the electronic chip of the optical fiber plug, using the



## **DIGITIZATION OF OPTICAL DISTRIBUTION NETWORKS (ODN)**

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This 'Quick ODN' uses the unique identities of ODN passive elements to create intelligent management functions like automatic storage of optical fiber location information, automatic identification of optical

## **Passive Optical Networks (PON): Components and**

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Dive deep into the world of Passive Optical Networks (PON). Explore its key components, understand its structure, and discover the numerous

## **Smartening up fiber optic networks with intelligent ODN**

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Smartening up fiber optic networks with intelligent ODN Shaanxi Mobile has deployed intelligent fiber optic networks at the core and aggregation layers of its network, boosting management efficiency and

## **ODN Construction**

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With the pre-connectorized products, light-weight construction of ODN, splicing-free, and rapid construction. Intelligent management is used to light up the passive

## **TS 104 021-1**

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The present document is mainly based on intelligent optical distribution networks that can collect the ODN device information through intelligent optical path analysis equipment or intelligent



## **Intelligent ODN System Design (2025): Architecture,**

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Learn how Intelligent ODN combines electronic labels, smart OTDR, and a unified platform to cut MTTR by 40-60%, boost first-time fix, and scale

## **Decoding OLT, ONU, ONT, and ODN in PON Network**

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Embarking on an exploration of the fascinating world of Passive Optical Networks (PON), we unravel the roles of OLT, ONT, ONU, and ODN in

## **Understanding OLT, ONU, ONT, and ODN for Fiber**

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The ODN (Optical Distribution Network) serves as the backbone of passive optical networks (PONs), distributing high-speed fiber internet efficiently. Together, these



## **TS 104 021-1**

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The present document describes the composition of the digitalized quick ODN and the general requirements on physical label, digitalized quick ODN devices, intelligent management terminal,

## **The Evolution of ODN Architectures in FTTH Networks:**

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While most attention goes to active components like OLTs and ONTs, the ODN represents up to 70% of total FTTH investment. Its evolution is

## **The Comprehensive Guide to PON Architecture:**



## **Mastering OLT,**

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Comprehensive guide to Passive Optical Networks (PON), covering OLT, ODN, ONU/ONT, GPON/XGS-PON/NG-PON2 standards, deployment strategies, and FTTH network

## **Light ODN Solution White Paper**

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The light ODN solution utilizes pre-connectorized technologies and products, optical network resource visualization, and intelligent O& M to rapidly build premium ODN

## **Intelligent ODN System Design (2025): Architecture,**

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Intelligent ODN System Design (2025): Architecture, Rollout, and ROI Executive Summary ODN footprints are exploding with FTTx, 5G back/fronthaul,



## Ubiquitous Fiber Networks with Huawei ODN 3.0

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With Huawei's core concept for ODN construction centering on full and dense coverage coupled with short and easy access, Huawei's ODN 3.0 solution uses

## Light ODN

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ZTE's end-to-end intelligent ODN management solution continues to evolve. The unified management platform integrates the active device management and passive ODN material management to

## Third-Generation Optical Distribution Networks Are

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This 'Digital Quick ODN' uses the unique identities of ODN passive elements to create intelligent management functions like automatic storage of

## **Passive intelligent ODN device and management system**

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At present, intelligent ODN equipment is divided into active ODN equipment and passive ODN equipment. Active ODN equipment is placed in the

## **Light ODN Solution White Paper**

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The Light ODN includes the Feb (Fiber Efficient Box) series products, and intelligent functions. It intelligently identifies and automatically collects optical link resource information, and implements



## Understand GPON Technology

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The ODN is composed of passive optical components (POS), such as optical fibers, and one or more passive optical splitters. Optical Network

## Passive Optical Networks Progress: A Tutorial

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This concept was referred to as an optical distribution network (ODN). ODN concepts that were developed in 1987 remain preserved, with some

## TR 103 775

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The present document is mainly based on intelligent optical distribution networks that can collect the ODN information through a smart terminal device (such as a smart phone with the ODN



## **Future Evolution of ODN Technologies - WELCOME TO CNB**

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The digital and intelligent ODN is a passive ODN network that is highly automated and intelligent in terms of precise resource management and fast service provisioning by introducing new

## **Protection Architectures for Passive Optical Networks**

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This chapter discusses the protection architectures for passive optical networks (PON). In a WDM-PON, each optical network unit (ONU) is served by a dedicated set of wavelength channels



## What Is an Optical Distribution Network (ODN)? - The Ultimate Guide

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? What Is an Optical Distribution Network (ODN)? An Optical Distribution Network is a passive optical transmission system composed of optical fibers, splitters, distribution frames, and

## PON Network Components Overview: OLT, ONU, ONT,

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In ODN, fiber optic cables, connectors, passive optical splitters, and auxiliary components work together. ODN is mainly divided into five parts (in bold

## WO2017118147A1

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By remotely controlling an intelligent mobile terminal to perform an optical fiber jumping operation on an intelligent ODN device, the present invention is simple, flexible, and low



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## PON Network: Understanding OLT, ONU, ONT and ODN

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PON means Passive Optical Network and A PON system can be fiber-to-the-curb (FTTC), fiber-to-the-building (FTTB) or fiber-to-the-home (FTTH). The PON

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