Tellabs® 140C Mini Optical Network Terminals (ONTs)

Secure, stable and scalable mini ONT satisfying high-density connectivity in the Enterprise LAN

Overview

The Tellabs® 140C Mini Optical Network Terminals (ONTs) provide high-density Gigabit Ethernet connectivity that is a scalable and smart choice for the new enterprise LAN. This evolutionary ONT, which supports the modern office and extended campus environments, can be integrated inside office furniture, secured to a wall, mounted underneath a desk or just be free-standing on a desktop. All 3rd millennium enterprise services and applications can be delivered, including voice, video, high-speed data, wireless, security, access controls and building automation in a mini form-factor.

Like all Tellabs ONTs, the Tellabs 140C ONT provides simple, smart and scalable gigabit-speed services in all enterprise LAN environments, including government, financial, education, healthcare and hospitality. Additionally, the Tellabs 140C ONT creates a neat, clean and efficient workspace, and provides the highest-level of security for all office environments.

This small 4-port mini ONT offers powerful enterprise LAN features for a high-performance IT infrastructure:

- Four 10/100/1000 Gigabit Ethernet interfaces with Power over Ethernet Plus (PoE+) on each port
- Fast and efficient IP endpoint provisioning, including power management, monitoring and configurations with Link Layer Discovery Protocol (LLDP) Media Endpoint Discovery (MED)
- Remote powering option allows for repurposing of existing CATx cable and leveraging existing battery back-up
- In new facilities, remote powering can take advantage of the next generation of hybrid fiber/copper cabling infrastructure for aesthetically pleasing power and battery back-up
- Uses Tellabs' industry-leading software-defined traffic management, security, provisioning and quality of service mechanisms
- Network Access Control (NAC) enables individual user service profiles to automatically follow a user to any port on the Tellabs® Optical LAN system, including service profile and security settings
- Operates seamlessly with Tellabs' complete line of OLTs and ONTs

All features and functionality can be defined in software and dynamically allocated, based on real-time needs. Compliant with ITU standard ONT Management Control Interface (OMCI) definitions and managed by the Tellabs® Panorama™ PON Manager, helps speed installations and daily operations. Centrally controlled by the Tellabs Panorama PON Manager, Manager, the Tellabs 140C ONT supports auto-discovery mechanisms, can be quickly provisioned using global templates and wizards, and offers smart troubleshooting tools, all of which allow for speedy moves, adds and changes for everyday operations.

Service Delivery, Segmentation & Quality of Service

Tellabs 140C ONT optimizes service delivery, works in conjunction with service differentiation and service QoS for cost-effective and performance-efficient deployments.

- Data, VoIP, unified communications and IP video in many forms (e.g., entertainment, surveillance, conferencing)
- Wireless access points, surveillance, security, automation, access control and other corporate services
- Link Layer Discovery Protocol (LLDP) for automated provisioning

Tellabs 140C ONT provides strict service segmentation through advanced VLAN capabilities that allow network convergence across a single all-fiber LAN infrastructure.

- Service-level VLANs provide traffic segregation for secure data flows
- VLAN trunking, stacking (Q-in-Q), termination and translation
- Traffic classification per IEEE 802.1p, IEEE 802.1q and DSCP guarantees voice quality

Tellabs 140C ONTs are supported from highly reliable Optical Line Terminals (OLTs) and allow service-level VLANs to extend into the end-user environment, which segregates and secures data flows to each service, user and/or device.

- Traffic classification by VLAN
- Strict priority set by IEEE 802.1p, IEEE 802.1q and DSCP
- Rate limiting created through CIR and EIR (shaping)
- Queuing (buffers) and shaping are used to smooth bursty traffic and protect mission-critical traffic
- All of the above together build guaranteed Service Level Agreements (SLAs).

Advanced Security

Tellabs has implemented unique security features optimized for protecting enterprise Networks at the physical layer, data layer and user layer.

- Superior security at the ONTs, across the Optical Distribution Network and end-to-end over the Optical LAN system
- Advanced Encryption Standard AES-128 encryption of traffic on the PON
- Access Control Lists (ACLs) at Layer-2 Ethernet, Layer-3 IP and Layer-4 TCP/UDP levels
- Ingress Broadcast Rate Limiting

Additionally, Tellabs' advanced authentication mechanisms provide intrusion detection and protection from unauthorized user or device activity through the following means:

- Network Access Control (NAC) with Dynamic VLAN, Guest VLAN and Quarantine support
- IEEE 802.1x Port-Based Authentication prevents unauthorized access to ports
- RADIUS Support for Authentication of users and distribution of policy to end-users
- Dynamic Host Control Protocol, including Option 82

Multiple Powering Options

Tellabs 140C ONT powering options include both local AC and remote DC. For local AC power, power adaptors are used to transform 120 AC power from the wall plug to 48 DC power delivered to the ONT. For the remote DC power option, a centrally located bulk rectifier can be used, and 48 VDC power is delivered over CATx cables or new hybrid fiber/copper cables.

- Remote: Uses a centrally located bulk power plant, emergency power and bulk battery back-up
- Local: The Tellabs® emPSU BBU unit with monitoring can be used as a local battery back-up option.
- PoE: Both IEEE 802.3af PoE and high-power PoE+ IEEE 802.3at, including Class-4 negotiations

Flexible Mounting Options

Tellabs 140C ONT is designed and tested for a wide variety of mounting scenarios. The 140C ONT can be integrated inside office furniture, secured to a wall or underneath a desk or just be free-standing on a desk top.

Specifications

Dimensions
- 140C ONT: 4.1″ (H) x 1.6″ (W) x 5.5″ (D)

Power Supply
- Input at ONT (volts): 48–56 VDC
- Consumption Idle (watts): 5 W
- Consumption w/o PoE Max (watts): 8W
- Consumption w/PoE Max (watts): 72W
- Max PoE Power Provided (watts): 60W
- Max Draw at ONT (amps): 1.5 A @ 48 VDC
- Optional (local) battery back-up
- Dying Gasp support

Operating Environment
- Temperature: -5° C to 50° C
- Relative humidity: 5% to 85%, noncondensing

Safety & EMI
- CE, FCC and UL certified

Installation
- Cubicle ONT mounts within standard raceways, on a desktop, under a desk, on a wall, vertical, horizontal or free-standing
- Built-in location indicator for easy installation and labeling identification

Network Interface
- Compliant to ITU-T G.984 GPON standards
- SFF-type laser SC/APC connector
- Wavelengths: Downstream 1490 nm, Upstream 1310 nm
- 1.244 Gbps burst mode upstream transmitter
- 2.488 Gbps downstream receiver
- Compliant with ITU-T G.984.2 Amd1, Class B+
- APD receiver and DFB transmitter
- 0.5~+5 dBm launch power, -27 dBm sensitivity and -8 dBm overload
- Laser compliant to FCC 47 CFR Part 15
- Class B and FDA 21 CFR 1040.10 and 1040.11, Class I

Gigabit Passive Optical Network (GPON)
- ITU-T G.984 compliant framing
- Flexible mapping between GEM ports and T-CONT with priority queue-based scheduling
- Activation with automatically discovered Serial Number (SN) and password
- AES-128 Decryption with key generation and churning
- Forward Error Correction (FEC)
- IP DSCP to 802.1p mapping
- Support for multicast GEM port

Ethernet Interfaces

- Four 10/100/1000Base-T Gigabit Ethernet RJ-45 connectors
- Autosensing MDI/MDIX or manual configuration
- Virtual switch based on 802.1Q VLAN
- 1024 MAC addresses
- 512 VLAN groups
- 8 VLANs per Ethernet port
- VLAN tagging/detagging, marking/ remarking per Ethernet port
- VLAN translation, trunking, stacking (Q-in-Q)
- QoS and security policies based on VLAN-ID, 802.1p, DSCP
- MAC address limiting to prevent flooding attacks and limiting the number of devices attached to a port
- IPv6 capable for enterprise services
- L2-L4 Access Control Lists (ACLs)
- Upstream ACL rate limiting
- IEEE 802.3az Energy-Efficient Ethernet
- Both IEEE 802.3af PoE and high-power PoE+ IEEE 802.3at, including Class-4 negotiations
- IEEE 802.1x Port-Based Authentication
- Link Layer Data Protocol (LLDP) for autoprovisioning, inventory and PoE power management.
- Network Access Control (NAC)
- IGMP v2/v3 snooping

LED Indicators

- PON — Link status
- Ethernet link (per port)
- Ethernet Tx/Rx (per port)

Operations, Administration and Maintenance (OAM)

- Standards-compliant OMCI as defined in ITU-T G.984.4 and G.983.2
- Management Information Base (MIB) manipulation over OMCI by Create, Delete, Set, Get & Get Next commands
- Complete service provisioning, such as Ethernet and VoIP
- Alarming, events and performance monitoring
- Remote image download over OMCI as well as activation and rebooting
- Holds two versions of software with image integrity checking and automatic rollback

Ordering Information

Tellabs 140C mini ONT

- 81.11G-ONT-140C-R6

For more information, please contact your local Tellabs sales representative or local Tellabs sales office at the phone numbers provided below, or visit www.tellabs.com.

Take the next step. Contact Tellabs today.

+1 800 690 2324
+1 630 798 9900
www.tellabs.com

1415 West Diehl Road
Naperville, IL 60563
U.S.A.

TEL9498 11/14