


COMMScope®  
**CommScope C1004 10G  
Epon Bridging Onu**



## CommScope C1004 10G Epon Bridging Onu User Manual

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# COMMScope®

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CommScope's C1004 Bridging ONU (Optical Network Unit) provides user interfaces to an EPON or 10G EPON optical network. User interfaces include 4ea GE ports, each capable of independent full 1GE throughput, in a package suitable for wall, desk, or flat surface mounting.

## FEATURES

- Supports all EPON rates:
  - 10Gbps / 10Gbps
  - 10Gbps / 1Gbps
  - 2Gbps / 1Gbps (Turbo mode)
  - 1Gbps / 1Gbps
- CableLabs DPoE 1.0 and 2.0 compliant
- Service policy enforcement per LLID with 16 bidirectional LLIDs
- 32 upstream queues / 64 downstream queues (16 queues per UNI port)
- IEEE 802.1p with up to eight priority queues per LLID
- IEEE 802.1D bridging
- IEEE 802.1Q VLAN mapping to LLIDs
- L2/L3/L4 line-rate packet processing supporting classification, modification, filtering, and custom rule-table processing
- 44 programmables ins per line or bundle port with 16 priority levels
- VLAN tag translation, Q-in-Q, tag addition/deletion, and modifications for 4K VANS
- Unicast, broadcast, and multicast traffic support
- IGMP v2/MLD v1 and IGMP v3/MLD v2 snooping
- IPv4 and IPv6 support
- Selectable encryption mode per LLID:
  - IEEE 802.1ae (128-bit AES) bidirectional
- IEEE OAM, DPoE 1.0 OAM, and Operator OAM
- Selectable encryption mode per LLID:
  - IEEE 802.1ae (128-bit AES) bidirectional
- IEEE 802.1X authentication
- IEEE 802.3ah frame-based FEC and IEEE 802.3av stream-based 10G FEC
- 4K MAC address learning table for 802.1D bridging

## HARDWARE

ITEM		DESCRIPTION
Mounting		Wall, desktop, under desk, flat surface mounting
Physical Dimensions	Dimensions	288.50(W) x 186.60(D) x 52.50(H) mm
	Weight	700g
Interface	PON	IEEE 802.3av
	LAN	10/100/1000BaseTx (RJ-45: 4 ports), MDI/MDIX Auto-Negotiation
	Power Switch	On/Off
	Power	DC 12V
	Reset Switch	Reset to factory defaults
Front Panel LED	Power	Power On/Off status
	PON	Logical Link status of PON, Loss Of Signal
	DATA	PON Link and Data Transmission status
	LAN 1/2/3/4	LAN Link and Data Transmission status

## PHYSICAL INTERFACES

	NAME	CONNECTION	DESCRIPTION
	ON/OFF switch		Power On / Off
	Power Jack	DC 12V	Input terminal for power adaptor connection
	LAN 1/2/3/4	RJ-45	Connected through a LAN port UTP cable
	Line	SC/UPC	EPON port

## OPTICAL SPECIFICATIONS, RX

	PARAMETER	SPECIFICATION	COMMENTS
	PON Input Power, maximum	-3.0 dBm	
	PON Input Power, maximum	-26.5 dBm	
	PON Wavelength, nominal	1577.00 nm (10G) or 1490.00 nm (1G)	

## OPTICAL SPECIFICATIONS, TX

	PARAMETER	SPECIFICATION		COMMENTS
	Bit Error Ratio, maximum	10-10		
	Laser Type	Distributed feedback (DFB) Class 1		
	Output Power Range	0–4 dBm		
	Wavelength, nominal	1270.00 nm (10G) or 1310.00 nm (1G)		

ELECTRICAL SPECIFICATIONS

	PARAMETER	SPECIFICATION		COMMENTS
	Electromagnetic Compatibility/Interference	ANSI C63.4   AS/NZS 4771/Amdt 1   C-Tick   CAN/CSA 22.2 no. 60065   EN 300 328  V1.7.1   EN 301 489-1 V1.9.2   EN 550 22  Class B   EN 60950-1   IC RSS-210, Issue 8    IRAM   UL 60065   US FCC Part 15 Subpart C		
	Power Consumption, maximum	18.5 W		
	Voltage	12.0 Vdc		
	Power Adapter	Input Voltage: 100-220VAC, 50/60Hz  Output: 12VDC, 3A		

ENVIRONMENTAL SPECIFICATIONS

	PARAMETER	SPECIFICATION		COMMENTS
	Operating Temperature	0 °C to +50 °C (+32 °F to +122 °F)		
	Relative Humidity	20%–80%, non-condensing		

ENVIRONMENTAL SPECIFICATIONS

	PARAMETER	SPECIFICATION	COMMENTS
	Ethernet Ports, UNI	IEEE 802.3 (10/100/1000 Base-TX)	
	Ethernet Ports, UNI, quantity	4	
	PON Interface	SC/UPC Female	
	PON Interface Standard (as shipped)	PX20, single-mode fiber	
	PON Interface, quantity	1	
	Power Supply	Required; 12VAC	External power adapter

## NETWORK PARAMETERS

- Wire-speed LAN
- Full-duplex mode LAN
- Auto MDI/MDIX (Medium Dependent Interface Cross) LAN
- IEEE 802.1q VLAN (tagged, untagged by port)
- 16 Active VLANs (max)
- VLAN ID range: 1 – 4094
- Up to 64 MAC addresses
- 32 Multicast Group entries
- Multicast throughput: 1Gbps

## DHCP

- DHCP Client
- DHCP Server
- In NAT mode, the IP will be assigned from the IP the pool of the device; in Bridge mode, the IP will be assigned from the network DHCP server
- DNS/DNS Proxy

## MULTICAST PARAMETERS

- IGMP v1/v2/v3
- IGMP Snooping
- IGMP Immediate Leave on/off
- IGMP Proxy

## NAT/NAPT

- Selectable between NAT and bridge modes

- Dynamic/static private IP in NAT mode
- Port Forwarding and DMZ Host functions
- 8,000 bi-directional concurrent sessions (maximum, full-wire-speed)

## QOS

	PARAMETER	SPECIFICATION	COMMENTS
	Classification	Physical port 802.1p SRC/DST IP address TOS/DSCP TCP/UDP SRC/DST port	Layer 1, 2, 3, 4
	Marking	802.1p DSCP	Layer 2, 3
	Scheduling	SPQ	3 Queues per interface

- Rate limiting ( $\pm 10\%$ )
- QoS for both upstream and downstream

## MANAGEMENT

- TR-069 compliant
- System or module LED
- Local and remote Firmware Upgrade (The existing Image should be kept when the upgrade fails).
- A normal session for a system management event with CPU overload
- Remote Management
- Remote access through Telnet (RFC 854, 855)
- CPE Management Server
- Device Reset
- Setting and changing Config
- Firmware download via Web Server
- Time sync via NTP server
- Device status and performance management

## SECURITY

- Broadcast storm control
- MAC filtering
- IP filtering

## IPV6

- Dual-stack
- ICMPv6
- DHCP Server and IPv6 addressing (stateful/stateless address)

## FUNCTIONAL SPECIFICATIONS

	PARAMETER	SPECIFICATION		COMMENTS
	PON Standards	IEEE 802.3 IEEE 802.3av (10G)		Layer 1, 2, 3, 4
	Technology Types	EPON 10G UPON		Layer 2, 3

## GENERAL SPECIFICATIONS

	PARAMETER	SPECIFICATION		COMMENTS
	Installation	Desktop, Wall, Under Desk, Flat Surface		
	Location	Indoor		
	Warranty	One year		

## LED INDICATORS

	LABEL		DESCRIPTION	STATUS		INDICATION
	PWR		Power supply LED	Green On		Power is fed.
				Yellow On		When the fed power is either over (i.e. above 13.2 V) Or under (i.e. below 9.6V) the voltage limit.
				OFF		No power is fed.
	PON		Authentication LED	Green On		10G Link On
				Blue On		1G Link On
				OFF		Link Off
	LOS		Loss of Signal	Red On		PON Link is NOT established properly. Or, the continuous optic signal is detected.
				OFF		PON Link is established properly. I.e. in normal status.
	DATA		Data port LED	Blue Blink		Packets are being transmitted between OLT and ONU.
				OFF		No packets are being transmitted between OLT and ONU.
	LAN 1-4		LAN port LED	Blue Blink		Packets are being transmitted

## OPTICAL FIBER CLAMP / SECURITY



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