

BLM 1500 E28 Gigabit Ethernet Line Card



DESCRIPTION

The BLM 1500 pluggable Gigabit Ethernet line card (E28) aggregates traffic from multiple GPON ports in the BLM1500 OLT and provides 802.3z-compliant GigE ports for uplinks to the IP core. The E28 provides two 10-GigE ports and eight 1-GigE ports, and supports a variety of field replaceable transceivers ranging from low-cost multimode to high-performance ultra-long-haul. The E28 supports inband management over Ethernet, and can be inserted in any BLM 1500 numbered application slot.

KEY ATTRIBUTES

IDEAL FOR CONNECTING TO TRIPLE PLAY IP NETWORKS: The E28 supports delivery of IPTV services in addition to carrier-quality voice services and high-speed Internet access services. The E28 provides fast channel swap times and acts as an IGMP proxy, passing on channel change requests to the IGMP server so that only one copy of each requested channel is sent back to the E28.

In combination with the BLM 1500 distributed multicasting architecture, the E28 provides a scalable and efficient access platform for high-performance IPTV access networks.

FLEXIBLE ARCHITECTURE FOR TRAFFIC FORWARDING: Each port on the E28 line card can be configured in any of three forwarding modes to allow the most efficient possible Ethernet routing: VLAN forwarding, MAC address forwarding, or mixed forwarding mode.

LINK AGGREGATION WITH 1:N PROTECTION: The E28 line card supports standards-based 1:N protection using IEEE 802.3ad link aggregation. This feature, with configurable alarms, provides facility and equipment protection in addition to significantly improving service availability for premium services.

POWERFUL TRAFFIC MANAGEMENT FEATURES: The E28 traffic management features allow for intelligent bandwidth allocation and resource sharing. Advanced Quality of Service (QoS) features allow traffic flows to be selectively classified, rate shaped, buffered, queued, and scheduled.

OLT SYNCHRONIZATION SUPPORT: The E28 hardware supports a 1588 v2 Precision Time Protocol (PTP) hardware client. When enabled by system software, the PTP client can select PTP timing from any of its Ethernet ports. The PTP client timing output can then be used as a primary or secondary timing reference for the BLM1500 OLT.

SUPPORT FOR SERVICE ASSURANCE WITH ALARM AND PERFORMANCE MONITORING: The E28 includes a full set of alarms and performance management features required for standard Telco network monitoring and troubleshooting. In addition, the E28 supports mirroring of data flows, in which traffic sent to/from an E28 port is copied to another port for debugging and/or traffic collection.

SPECIFICATIONS

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GENERAL FEATURES

COMPLIANCE

IEEE 802.3 1 GigE over
Fiber-Optic Medium
IEEE 802.3ae 10 GigE over
Fiber-Optic Medium
IEEE 802.3ad Link Aggregation
Control
IEEE 802.1p Priority Bits
IEEE 802.1d/q VLAN support
IEEE 802.1x Port Authentication
IEEE 802.1d MAC bridging,
DHCP/PPPoE learning
IEEE 802.1p/q VLAN forwarding
and stacking
IEEE 1588 v2 Precision Time
Protocol
DHCP Option 82
PPPoE Option 105
IETF RFC2460 IPv6

LINK AGGREGATION (LAG)

Up to eight 1-GigE ports and two
10-GigE ports can be aggregated
Facilities/equipment protection and
load balancing within each link
group
Configurable LAG alarms

MAXIMUM LINE RATE

10 Gbps full duplex per 10-GigE port
10/100/1000 Mbps full duplex per
1-GigE port

PHYSICAL LAYER

Supports PAUSE flow control

TRANSCEIVER SUPPORT

SFP and XFP transceivers for a
variety of reaches and
wavelengths

PHYSICAL SPECIFICATIONS

DIMENSIONS

HxWxD: 400 x 23 x 260 mm
(HxWxD: 15.75 x 0.91 x 10.25 in)

WEIGHT

1.8 Kg (4.1 lb.)

POWER REQUIREMENTS

Typical: 97W
Maximum: 102W

PHYSICAL INTERFACES

Two pluggable XFP 10 GigE
modules
Eight pluggable SFP GigE modules

STATUS INDICATORS

LINE CARD LEDS

FAULT—Indicates whether the line
card has an equipment fault
MAINT—Indicates whether the line
card is removed from service
IS—Indicates whether the line card is
functioning normally

PORT LEDS

LNK—Indicates whether port is
enabled
ALM—Indicates whether a facility
fault is declared

ENVIRONMENTAL SPECIFICATIONS

OPERATING TEMPERATURE (RACK-MOUNT)

Normal: 5°C to 40°C
(41°F to 104°F)
Short-term: -5°C to 55°C
(23°F to 131°F)

STORAGE TEMPERATURE

-40°C to 70°C (-40°F to 158°F)

OPERATING RELATIVE HUMIDITY

5 to 85%, noncondensing

OPERATING ALTITUDE

Minimum: 61m (200 feet) below
sea level
Maximum: 4,000m (13,100 feet)

ENVIRONMENTAL COMPLIANCE

STORAGE

ETSI EN 300 019-1-1 class 3.2
(Weather-protected, not
temperature controlled,
storage locations)

TRANSPORTATION

ETSI EN 300 019-1-2 class 2.3
(Public transportation)

IN USE

ETSI EN 300 019-1-3 class 3.1
(Temperature-controlled location)
RoHS 2002/95/EC

SAFETY

UL 60950-1, first edition
CAN/CSA-C22.2 No. 60950-01-03
EN 60950-1, first edition
IEC 60950-1, first edition

LASERS

Class 1 lasers (optical SFP/XFPs)
21 CFR 1040.10 and 1040.11
EN 60825-1 and -2
IEC 60825

IMMUNITY

GR-1089-CORE (NEBS Level 3)

EMISSIONS

GR-1089 (NEBS Level 3)
EN 300 386 Class A
ICES-003 Class A
47 CFR Part 15, Subpart B, Class A

ORDERING INFORMATION

BLM 1500 E28 Gigabit Ethernet Line Card

CALIX BLM 1500 E28 Gigabit Ethernet Line card

100-03545..... PACK,E28,2-10 & 8-1 GBE W/ XFP/SFP OPT



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