

10 Gigabit Ethernet Module Technical Specifications

10 Gigabit Ethernet

Ports	1 XFP user-pluggable module with LC connector	Data Rate	10 Gbps
Duplex Mode	Full duplex	External Eye Clock	SMA, AC coupled PECL (line rate/64)

General Specifications

Frame Type	Statistics and generation of Ethernet frames with UDP/IP, IPv4	Per stream transmit statistics: Transmitted bandwidth %; count of transmitted packets/bytes
Results/Statistics	LOS and link state alarms, code violation error counts, current rate, average rate, errored seconds; Each port accumulates statistics in real time; event log result analysis with time stamp; user-defined test duration time <u>LED indicators:</u> LOS, link state and pattern sync alarms, FCS, code, and payload BIT errors	Per-stream receive statistics: Received bandwidth %; count of received packets/bytes; count of VLAN tagged packets; out-of-sequence packets, bit errors Error measurements per port: FCS, IP checksum, and oversized/undersized frame error counts, current rates, average rates, and errored seconds, code errors
External Clocks	BNC 50 ohms AC coupled with TTL levels 10MHz, 5MHz, 2.048MHz and 1.544MHz	Error insertion: FCS and IP checksum—single and user-specified rates from 1E ⁻³ to 1E ⁻⁵
Traffic Stream Generation/Analysis	<u>Streams per port:</u> 4 independently configurable traffic generation and analysis streams <u>Configurable stream parameters:</u> Include: Transmitted bandwidth %: 0.1 to 100 Frame length: 60 to 9220 bytes MAC source/destination address: User-defined IP source/destination address: User-defined UDP source/destination port addresses: User defined VLAN tagging 802.1q.p: Enabled/disabled VLAN ID: 0 to 4095, VLAN QoS Levels: 0 to 7 UDP payload pattern: All ones, all zeros, PRBS 31, user-defined 32-bit <u>Pause frame generation:</u> Supports the generation of pause frames with a user specified time of 0 to 65535 Quantas <u>Per-port transmit statistics:</u> Transmitted Mbps and bandwidth % rates; count of transmitted packets/bytes <u>Per-port receive statistics:</u> Received Mbps and bandwidth % rates; count of received packets/bytes; count of received jumbo frames, pause packets, pause end packets, and pause Quantas taken; count of received IP, ICMP, TCP, UDP, IGMP, BGP, and OSPF packets; count of received VLAN tagged frames and VLAN tagged frames per QoS levels 0 to 7	APS Measurements Last, shortest, longest, and average protection switch times in ms; user-definable guard band thresholds for filtering receive traffic RFC 2544 Throughput Test Measurements are provided for 64, 128, 256, 512, 1024, 1280, and 1518 byte frame lengths, user defined User-selectable trial duration time (1 to 600 secs), acceptable loss rate (0 to 100%); resolution rate (1 to 100%) parameters <u>Measurements:</u> Passing rate %, number of transmitted/received packets, and min/max/average latency values in µsec resolution RFC 2544 Frame Loss Test Measurements are provided for 64, 128, 256, 512, 1024, 1280, & 1518 byte frame lengths, user defined; user-selectable trial duration time (1 to 600 secs) <u>Measurements:</u> Tested frame rate %, number of transmitted/received frames Tested frame rates are user selectable WAN Statistics LOS, LOF, B1, B2, B3 Error, LOP-P, AIS-L, RDI-L WAN Generation LOF, B1 Error, AIS-L (Requires High-Density Ethernet Module)



Americas
Corporate Headquarters
15550 Lightwave Drive
Clearwater, FL 33760
Toll free: +1 877 442 DIGL
T: +1 727 442 6677
F: +1 727 442 5660

Europe/Middle East/Africa
Lakeside House
1 Furzeground Way
Stockley Park, UK
Uxbridge UB11 1BD
T: +44 (0) 02086 223023
F: +44 (0) 02086 223200

Asia/Pacific Rim
Braeside Grove
Unit 4, Sibthorpe Street
Braeside, Victoria,
Australia 3195
T: +61 3 9587 4900
F: +61 3 9587 4990

Asia/Pacific Rim
Room 308A, Tower B
He Qiao Bldg, Guanghua Rd.
Chao Yang District
Beijing, China 100026
T: 8610 65815317/5327
F: 8610 65815327

