TC702
Gigabit Ethernet Module

Key Benefits

- RFC2544 measurement
- ITU-T Y.1564 measurement
- EtherBERT measurement
- Packet stream generation and measurement
- Loopback discovery
- Smart Loopback and 802.3ah OAM Loopback
- Through mode
- Stream statistics in details
- VLAN and Q-in-Q support
- IPv6 and IPv4 support
- Error statistics
- Full dual port test

The TC702 gigabit Ethernet modules are the latest modules to be added to the FC-1 family. The FC-1 platform is Deviser's newest modular platform with advanced technologies that host a wide-range of test and measurement modules. In addition to the Ethernet module, the FC-1 supports other application modules, making FC-1 the only instrument required for testing from physical layer to service layer of emerging (or next generation) networks. TC702 Ethernet tester is Deviser's new Ethernet tester to qualify Ethernet service over LAN and RAN deployment. It is a highly efficient test instrument for service providers to ensure SLA KPIs with the subscribers.

RFC2544 Test   Y.1564 Test   Traffic Statistic

Support many standards of Ethernet service testing to meet customers' needs completely.

- **RFC2544 measurement**
  Throughput, latency, packet delay variation, frame loss and back-to-back tests with configurable packet structure and packet dimension running in round-trip or one-way measurement mode.

- **Y.1564 measurement**
  Up to 10 service profiles can be configured to emulate audio, video and data streams in round-trip or one-way measurement mode.
  - Service Configuration Test: CIR, EIR and overshoot
  - Service Performance Test: KPIs in group transmission could be measured in CIR speed to identify the QoS of the network performance including frame delay, frame delay variation (frame jitter) and frame loss rate.

- **EtherBERT measurement**
  Test Layer 1 to Layer 4 BER streams with independent packet configuration and statistics measurement. Service interruption and BIT/FCS error injection/detection with PRBS payloads are also supported.

Sophisticated Ethernet measurement analysis functions to help customers to understand the QoS metrics and troubleshoot mechanism rapidly.

- **Packet stream generation and measurement**
  Up to 10 packet streams can be generated and measured simultaneously to verify the QoS of Ethernet services. Each packet stream can be configured independently with different MAC/IP source/destination addresses, VLAN (Q-in-Q), MPLS, TCP/UDP source/destination ports, PRBS payload, packet size and bandwidth.

- **Loopback discovery**
  Any remote Deviser loopback device or TC702 can be discovered over the local network automatically or manually to increase the test efficiency.

- **Smart Loopback and 802.3ah OAM Loopback**
  Support Layer 1 to Layer 4 user-transparent smart loopback.

- **Through mode**
  Monitor real-time packet statistics over live service networks.

- **Stream statistics in details**
  Transmit and receive statistics - line/data bit rates, Broadcast/Multicast/Unicast frames, frame Dimension distribution, error frames, packet delay, packet jitter and VLAN/MPLS/TCP/UDP frames.

- **VLAN and Q-in-Q support Support up to 3 VLAN tags**

- **IPv6 and IPv4 support**
  Support dual-stack IPv6 and IPv4 packet generation and measurement

- **Error statistics**
  Support statistics of link disconnection, loss of signal (LOS), frequency offset, symbol error, BIT error, FCS error, over size error, fragmentation error and runt error.

- **Full dual port test**
  Support full dual port test with each interface running independent test

Auxiliary functions

- **Optical Power Meter**

- **IP tools: Ping, TraceRoute, DNS, DHCP and FTP/HTTP upload/download**

- **Standard report generation**

- **Web browser surfing**

- **USB flash drive saving/loading of test profiles and measurement reports**

- **Visual Fault Locator (VFL)**

Specifications

Optical Interface			
2 SFP interface, support GigE			
Available wavelength	850nm, 1310nm and 1550nm		
	1000Base-SX	**1000Base-LX**	**1000Base-ZX**
Wavelength (nm)	850	1310	1550
Tx Level (dBm)	-9 ~ -3	-9 ~ -3	0 ~ +5
Rx Level Sensitivity (dBm)	-20	-22	-22
Transmission Distance	550m	10km	40km
Transmission Bit Rate (Gbit/s)	1.25	1.25	1.25
Receiving Bit Rate (Gbit/s)	1.25	1.25	1.25
Tx Working Wavelength Range (nm)	830 ~ 860	1270 ~ 1360	1540 ~ 1570

Measurement Accuracy	
Frequency (ppm)	±4.6
Optical Power (dB)	±2
Jitter Compliance	EEE802.3
Ethernet Category	EEE802.3
Connector	LC
Transceiver Category	SFP

Electric Interface			
2 ports: 10/100/1000 Base-T full duplexing			
Automatic or manual detecting through/crossover cable			
	10Base-T	**100Base-TX**	**1000Base-T**
Tx Bit Rate	10Mbit/s	100Mbit/s	1Gbit/s
Tx Accuracy (ppm)	±4.6	±4.6	±4.6
Rx Bit Rate	10Mbit/s	100Mbit/s	1Gbit/s
Rx Accuracy (ppm)	±4.6	±4.6	±4.6
Duplex Mode	Half duplex and full duplex	Half duplex and full duplex	Full duplex
Jitter Compliance	IEEE802.3	IEEE802.3	IEEE802.3
Connector	RJ-45	RJ-45	RJ-45
Max. Distance (m)	100	100	100

General Specifications	
Dimension (H x W x D)	256 x 183 x 73mm
Weight (with battery	1.8kg
Operating Temperature	0 ~ 50℃
Storage Temperature	-20 ~ 70℃
Relative Humidity	0% ~ 95% (non-condensation)
Working Time	Over 4 hours
Charging Time	5 hours from full discharge
Language	English, Chinese, Spanish, Portuguese