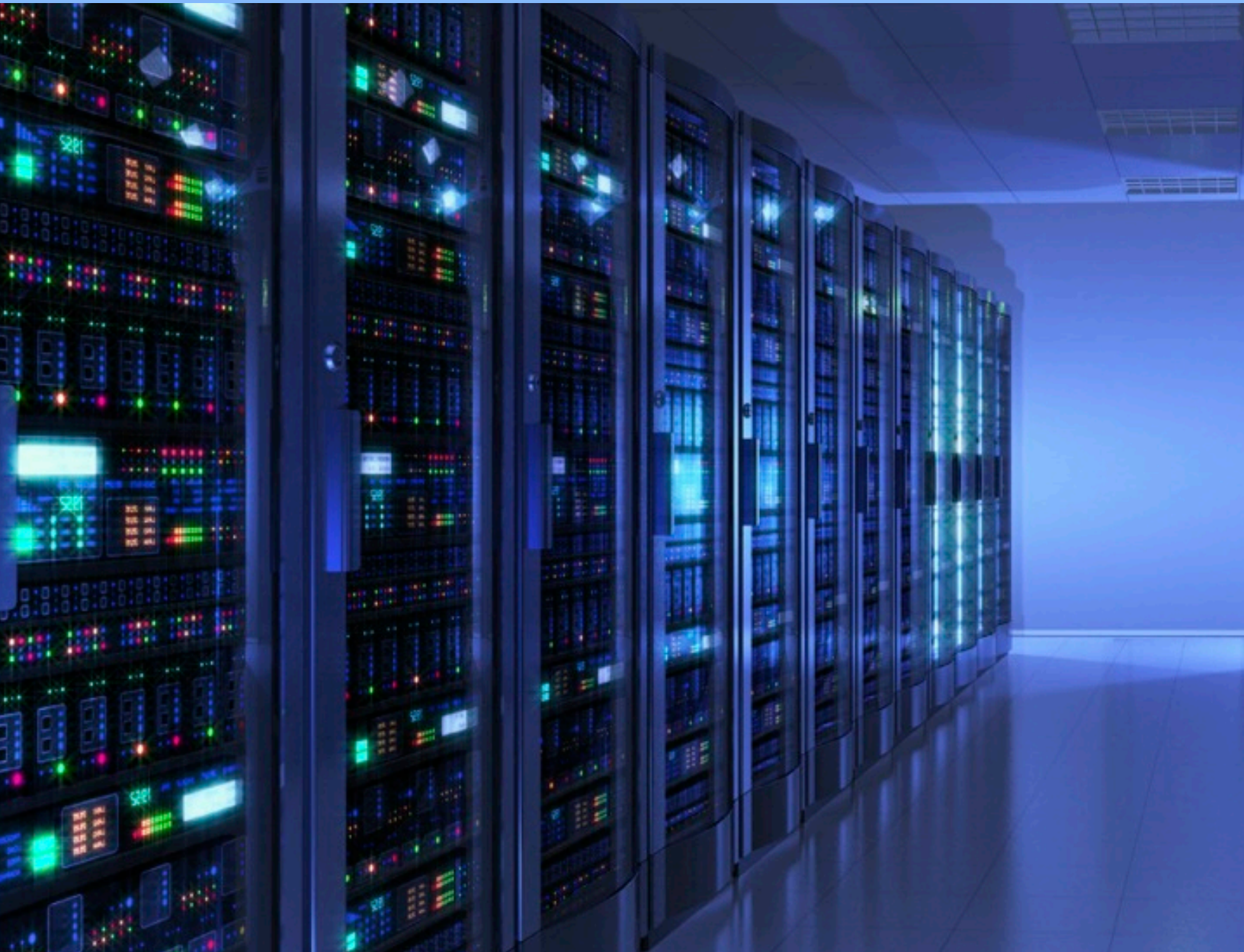


# Fiber Optic Solutions for Datacom & Storage







Timbercon has been a leader in the data communications and network storage industries for over 17 years. Our ruggedized fiber optic assemblies are designed for use in data centers, manufacturing environments, test labs and development design centers. In addition, our suite of electrical and optical loopbacks is used by data transport element manufacturers to troubleshoot, burn-in and test their products. Our products are designed and manufactured to the most exacting standards and rigorous specifications.

### Armadillo Optical Loopbacks

Timbercon's Armadillo loopbacks are miniature fiber optic cable assemblies encased in a ruggedized shell. By incorporating a rigid, premium quality commercial connector within a shell for fiber protection and an easy-to-use ergonomic package, the Armadillo loopback is designed for longevity and performance. The Armadillo optical loopbacks are an ideal product for a multitude of applications requiring duplex loopback TX to RX testing and are available in both LC and SC form factors attenuated to your specific values.



### SFP and SFP+ Electrical Loopbacks

Timbercon's SFP electrical loopbacks are used for port testing in hub testing, board testing, Highly Accelerated Stress Screen (HASS) and Highly Accelerated Life Test (HALT) testing. The SFP loopback supports Fibre Channel, Gigabit Ethernet and Infiniband protocols, and is capable of up to 2.5 Gbps data transfer rate. Custom EEPROMs are also available.



### QSFP+ and QSFP28 Electrical Loopbacks

The QSFP+ electrical loopback is 40Gbps loopback that incorporates four 10 Gbps channels into one device. In addition to being read/write like other Timbercon loopbacks, the Timbercon QSFP loopback is available in Power Class 1 through Power Class 4. An LED Indicator light alerts you to the operational status of the loopback as defined by the MSA (solid amber indicates fully seated and operating in low power mode, solid green indicated fully seated and operating in high power mode, green/amber blinking indicates slot has been deselected). Timbercon's QSFP28 electrical loopback is similar in form factor and operation as our QSFP+ but provides loopback functionality for 4 channels of 25Gbps.







## Insertion/Extraction Handles

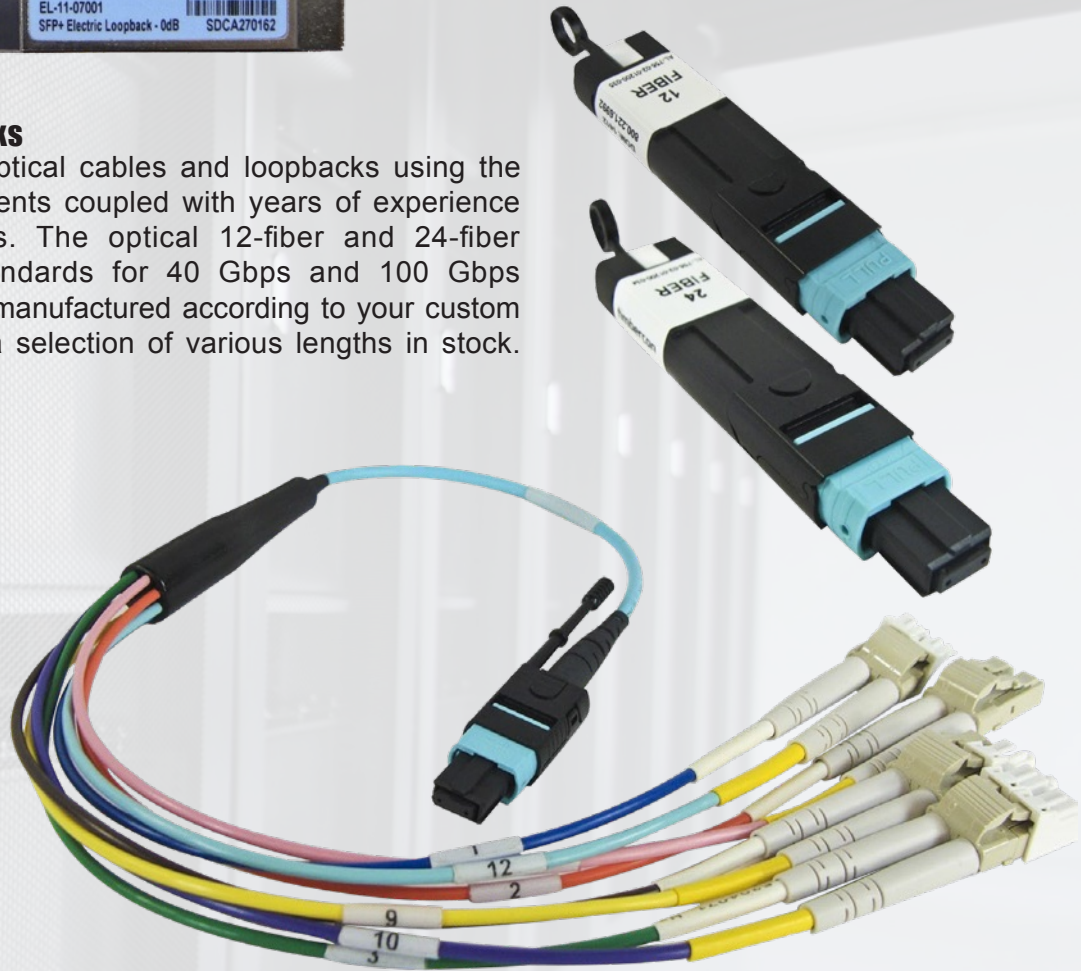
Inserting and extracting large numbers of electrical loopback modules in high port count elements is a time-consuming and arduous task for engineers and technicians. Timbercon offers rugged polymer handles designed to gang together 3, 4 or 5 of these modules. This allows the user to insert/extract multiple loopbacks at one time, greatly reducing the time needed to populate/depopulate the system.

## MTP® Optical Cables and Loopbacks

Timbercon manufactures MTP® optical cables and loopbacks using the industry's highest quality components coupled with years of experience and tightly controlled processes. The optical 12-fiber and 24-fiber loopbacks are built to MSA standards for 40 Gbps and 100 Gbps applications. All MTP® cables are manufactured according to your custom requirements. We also maintain a selection of various lengths in stock.

## MTP® Breakout Cables

Using the same top-of-the-line components as the MTP® cables, Timbercon manufactures a suite of breakout cables. We have the ability to customize the breakouts with options for length, breakout pinouts, connectors and cable type. We build to industry specifications for QSFP, CFP and CFP2 applications to solve all 40G and 100G applications. We use our Timbercon designed overmold breakout design to produce the most rugged breakouts in the industry.



## Network Simulators

Data transport equipment manufacturers and system designers often need to simulate an optical network in the lab to test the performance of their equipment in "deployed" conditions. Timbercon's network simulators provide this function in a compact, rack-mounted enclosure incorporating any fiber optic device believed to be in the physical layer (fusion splices, connectors, splitters, actual fiber lengths, etc). Dispersion, delay, attenuation and other effects can be quantified using this solution. Timbercon network simulators can contain up to eight channels, and each channel can be up to 25 km in length.





# 40 Gbps & 100 Gbps Product Solutions

Timbercon is proud to offer a complete suite of proven product solutions for the higher bandwidth requirements of 40Gbps and 100Gbps transmission speeds.

## 40 Gbps and 100 Gbps Optical and Electrical Loopbacks

Timbercon offers both electrical and optical solutions for 40G and 100G requirements. The optical loopback is available in both OM3 multimode as well as single mode, and comes in a ruggedized shell, making it ideal for lab and manufacturing environments. Timbercon has both the QSFP 40Gbps (4x10Gbps) optical loopback for use in QSFP and the QSFP28 applications, and 100 G (10x10) optical loopback for use with CFP, CFP2 and CPAK applications. Using the latest technology, the Timbercon electrical QSFP, QSFP28, CFP2, and CPF4 electrical loopbacks meet MSA specifications, and are read/write capable. These loopbacks offer programmable power dissipation as defined by MSA Power Levels, and Timbercon can provide your unique information in the EEPROM for identification and security.



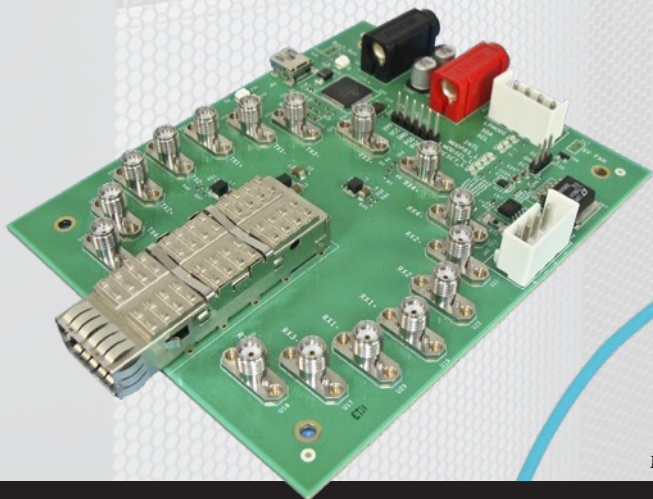
## 40Gbps and 100Gbps MTP® to MTP® and MTP® Breakout Cables

Timbercon uses the highest quality components to design and manufacture breakout cables to your specification. Using USConec® 12-fiber and 24-fiber MTP®, we can design a custom cable that solves all of your needs. You define length, connectors and breakout configurations, or we will help design it for you. You can also choose any of our industry proven standard configurations.



## 40Gbps and 100Gbps Host Test Boards

The Timbercon host test boards are designed to provide an efficient and simple method of module programming, testing and characterizing of the QSFP, QSFP28 and CFP2 loopbacks and transceivers. The host test boards come complete with operating software, Window based user-friendly GUI and a user manual. The boards feature transmit, receive, computer interface, reference clock and power supply ports.



MTP® is a registered trademark of US Conec LTD

