OptoTest
Your Partner in Fiber Optic Test Solutions

4750 Calle Quetzal, Camarillo, CA 93012 USA
Phone: +1 (805) 987 1700 | Fax: +1 (805) 987-1722
sales@optotest.com | **www.optotest.com**

OP720-MATRIX
MEMS 3D
Optical Matrix Switch

PRODUCT OVERVIEW

The OP720-Matrix is a high-speed MEMS 3D optical matrix switch whose non-blocking design allows for simultaneous connection of multiple optical fibers with high repeatability and low loss. Available with up to 96 x 96 channels when configured for **Any Input to Any Output**, and up to 48 ports when configured for **Any Port to Any Port**, the OP720-Matrix can expand and add flexibility to your existing fiber optic test system, or be used to create a new test system with endless possibilities.

KEY FEATURES & BENEFITS

- **3D Tilting MEMS Mirror Matrix Technology**
  Maintains bidirectional connectivity of active channels while others are being connected and routed. Provides high-speed, reliability, and long life, with no large moving parts that can wear out over time.

- **Customizable to Meet Your Testing Needs**
  Available with up to 96 x 96 channels when specified in Any Input to Any Output configuration. Available with up to 48 ports when specified in Any Port to Any Port configuration. Both configurations can incorporate your choice of ST, FC, SC, LC, and other optical interfaces, and offer scalable solutions to meeting future testing requirements without the need for additional equipment.

- **Fast Switching Times with High Repeatability**
  The switching time of the Any Input to Any Output version is less than 20ms, with repeatability of less than 0.06dB. The Any Port to Any Port version has a switching time of 25ms, with repeatability of 0.1dB.

- **Supports OPL-SDK Test Automation**
  Use OPL-SDK to integrate the OP720-Matrix with your custom software.

- **USB and Ethernet Communication Enable Software Control**
  Using the Software Development Kit, the OP720 can be remotely controlled and integrated into custom software for instrument control and automated test and measurement.

* Ethernet available upon request

CALIBRATION
This product can be calibrated in-house, on-site, or remotely.

TECH SUPPORT
Our team of experts is ready to assist with your setup.

WARRANTY
OptoTest offers a three-year warranty on this product.

APPLICATIONS

- Signal Conditioning and Routing for Transceiver Testing
- Network Routing and Monitoring

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CUSTOM OPTIONS

- **Any Input to Any Output for Expandability**
  When specified in this configuration with up to 96 x 96 channels, any input port can be routed to any output port. Its fully non-blocking design enables up to 96 channels to be active at the same time.

- **Any Port to Any Port for Flexibility**
  When specified in this configuration with up to 48 ports, any port can be routed to any other port. This enables the switch to be changed from 1 x 47 to 24 x 24 channels on the fly, eliminating the need for multiple dedicated single-use switches and offering endless options.

- **One of Many Switching Solutions**
  From standard 1 x N switches to Any to Any matrix switches with high channel counts, OptoTest has you covered. A full line of single mode and multimode switches is available, including bidirectional and compact benchtop versions, and can be custom built to fully suit your testing needs now and beyond.
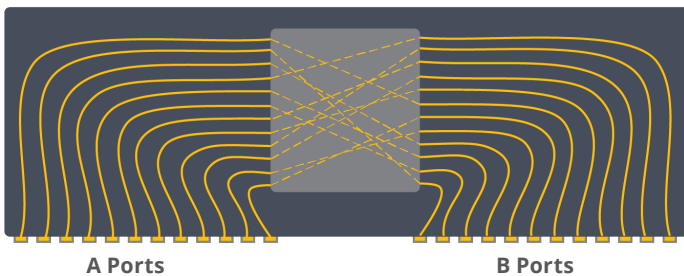
A Ports **B Ports**

Any Input to Any Output Configuration: Any of the **A ports** can be routed to any of the **B ports** in a non-blocking* fashion.
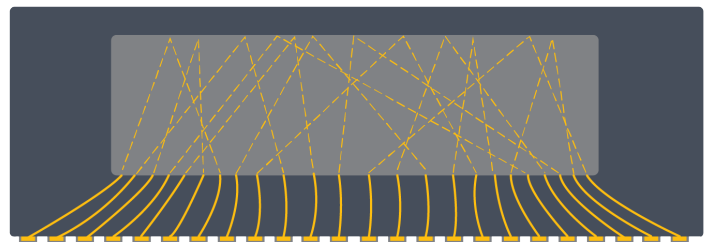
Any Port to Any Port Configuration: All ports can be routed to any other port of the switch in a non-blocking* method.

Note: A *non-blocking switch* allows for multiple links/routings to be active simultaneously. A *blocking switch* only allows a single routed link at a time.

ISO CERTIFIED
Our Quality Management System is certified and in compliance with ISO 9001:2015.

MADE IN THE USA
We proudly design & manufacture our equipment in California, United States.

Visit **www.optotest.com** or contact one of our sales engineers at
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PRODUCT SPECIFICATIONS

OP720-Matrix	Any Input to Any Output
Port Count	up to 96x96 (single mode) 16x16 (multimode)
Internal Fiber	SMF28, 9/125
Insertion Loss	<1.4dB
Repeatability	<0.06dB
Switching Time	<20ms
Crosstalk	<-55dB
Optical Interface	ST, FC, SC, LC (other upon request)

OP720-Matrix	Any Port to Any Port
Port Count	48
Fiber Type	SMF28, 9um
Typical Insertion Loss	1.0dB
Maximum Loss	2.0dB
Repeatibility	0.1dB
Switching Time	25ms
Wavelength Range	1270nm to 1675nm
Return Loss	<50dB
Max Power	27dBm

Mainframe

Dimensions	Up to 48 ports (2U): 19" x 3.5" x 12" | More than 48 ports (4U): 19" x 7" x 20"
Power Supply	90VAC ... 264VAC; 47Hz to 63Hz; 0.7Amps (115VAC) 0.4Amps (230VAC); Fuse: T1A, 250V
Warm-up Time	5-15 minutes
Operating Temperature	0°C to 50°C
Maximum Relative Humidity*	95%

* For temperatures up to 31°C, decreasing linearly to 50% relative humidity at 40°C.

Specifications are subject to change, please confirm specific performance characteristics of the product at the time of ordering. All specifications are valid within temperature range of 18ºC to 24ºC unless otherwise noted. For additional specifications please contact OptoTest.

The **OP720-Matrix** is available in a rack-mountable **2U enclosure** for versions with up to 48 ports and a **4U enclosure** for more than 48 ports, and can be used on the benchtop. Its modular design is customizable to your needs, making it an ideal solution in the field, laboratory, or on the production floor.

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