

# High Port Density Optical Switch Family for VIAVI RFTS Solutions

## Enable High Capacity Remote Fiber Testing

The high port density optical switch family is optimized for remote fiber testing of networks with high fiber count cables or many FTTP service points such as PON and DAA/ DWDM networks. The scalability and high capacity enable rapid test port expansion as a network grows delivering remote fiber test, troubleshooting and monitoring for large fiber networks when used with a VIAVI Remote Fiber Test System (RFTS) system or Fiber Test Head (FTH).

The high port density optical switch family offers 36, 48, 96, 144 or 192 ports in a small 1/3 width of 1RU form factor. In addition, optical switches can be cascaded so a 192 port switch can enable test expansion for up to 5952 fibers from a single FTH.

As part of a centralized solution, fibers are tested with an approved method of procedure (MOP) with test results captured automatically during network construction, service activation and as part of on-going monitoring, ensuring that no degradation goes undetected after fibers are commissioned.

Network operators can rapidly test and monitor many fibers remotely from a single point, such as an exchange, hub or local office with a fully automated, cost-effective, scalable solution.

### Key Features

- High port density, high speed switching
- 36 (LC/APC), 48, 96, 144 and 192 ports options
- PAY as you Grow (PAYG) expansion model for first external 96, 144, 196 ports optical switch
- Compact 1/3 width of 1 RU, rack mountable
- No power supply required, powered from FTH unit
- No IP address required, managed by FTH unit
- Exceptional durability 2.5 billion cycles
- Cascade up to 31 switches to support up to 5952 fibers
- MPO connector locker (retainer) for 48 and 96 ports switch
- Compatible with OTU-5000, FTH-5000, FTH-7000, FTH-9000

### Applications

- Fiber construction, activation and recertification
- Fiber Monitoring
- Tapping/intrusion detection
- Fault demarcation



48 port MPO



192 port MPO



36 port LC/APC

## Specifications – (typical at 25°C)

| General                                                         |                                                                                                                                              |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Dimensions                                                      | Designed for 1/3 width 1RU (44 mm)<br>Depth: 223.10 mm<br>Height: 42.50 mm<br>Length: 146 mm<br>Weight: <1.4 kg                              |
| Operating temperature                                           | -20°C to +60°C                                                                                                                               |
| Storage temperature                                             | -20°C to +60°C                                                                                                                               |
| Humidity                                                        | 5% to 90% without condensing                                                                                                                 |
| EMI/ESD                                                         | EN 61326-1 :2013 compliant, class A<br>FCC 47CFR Part 15: 2017 compliant, class A                                                            |
| Interfaces                                                      | RS485                                                                                                                                        |
| Power consumption in active mode                                | <0.5 W                                                                                                                                       |
| Power consumption in low power mode                             | <0.2 W                                                                                                                                       |
| Optical Specifications                                          |                                                                                                                                              |
| Number of Ports                                                 | 36 LC/APC, 48, 96, 144, 192 ports + one common port                                                                                          |
| Operating Wavelength Range                                      | 1270 nm - 1670 nm                                                                                                                            |
| Insertion Loss (excluding connectors)<br>for 36, 48 ports       | < 1.2 dB from 1600 nm to 1670 nm<br>< 1.6 dB from 1528 nm to 1600 nm<br>< 1.9 dB from 1500 nm to 1528 nm<br>< 2.1 dB from 1480 nm to 1500 nm |
| Insertion Loss (excluding connectors)<br>for 96, 144, 192 ports | < 1.8 dB from 1600 nm to 1670 nm<br><2.6 dB from 1528 nm to 1600 nm<br><3.2 dB from 1500 nm to 1528 nm<br>< 3.6 dB from 1480 nm to 1500 nm   |
| Return Loss with connectors                                     | >50 dB                                                                                                                                       |
| Repeatability                                                   | - 0.05 dB to + 0.05 dB                                                                                                                       |
| Durability                                                      | 2.5 Billion cycles                                                                                                                           |
| Connector Type                                                  | Common port: LC/APC<br>Output ports: LC/APC (36), MPO-12 male (48/96/144/192)                                                                |

## Specifications - (typical at 25°C) continued

| Description                                                                 | Part Number         |
|-----------------------------------------------------------------------------|---------------------|
| High Density Optical switch 36 ports LCAPC Connectors                       | E9H-X36LCAPC        |
| High Density Optical Switch of 48 ports MPO-12 Connectors                   | E9H-X48MPO          |
| MPO Connector locker for UOS 48 ports MPO bloc                              | E9H-MPO48-LOCK      |
| High Density Optical Switch of 96 ports MPO-12 Connectors                   | E9H-X96MPO          |
| MPO Connector locker for UOS 96 ports MPO bloc                              | E9H-MPO96-LOCK      |
| High Density Optical Switch of 144 ports MPO-12 Connectors                  | E9H-X144MPO         |
| High Density Optical Switch of 192 ports MPO-12 Connectors                  | E9H-X192MPO         |
| Initial Config. with 48 ports for 96 ports High Density Optical switch      | E9H-X96MPO-PAYG     |
| Initial Config. with 72 ports for 144 ports High Density Optical switch     | E9H-X144MPO-PAYG    |
| Initial Config. with 96 ports for 192 ports High Density Optical switch     | E9H-X192MPO-PAYG    |
| Additional 12 ports switch for 96/144/192 ports High Density Optical switch | E9H-XMOD12-PAYG     |
| SW Lic. for adding 12 ports to 96/144/192 ports High Density Optical switch | E9H-XMOD12-PAYG-UPG |



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