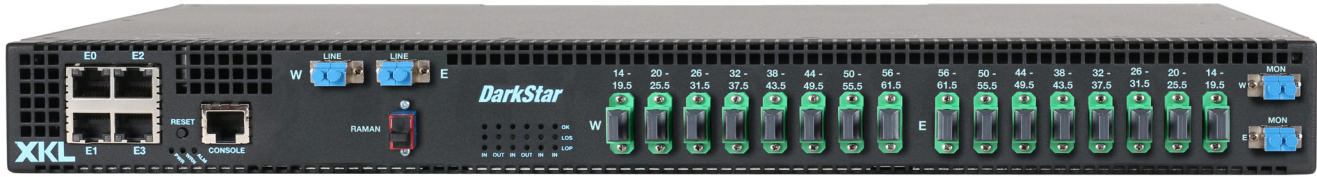




# DarkStar® DMD-A Family

## Mux/Demux with Amplification



## Technical Specifications

### Physical Dimensions

Height: 1RU or 2RU  
Width/Depth: 16.9"/27.25" (1RU) or 16.9"/17.5" (2RU)  
Weight, minimum: 35lbs (fully configured)

### Power Requirements

Power input AC: 100-240V AC, 50/60Hz  
Power input DC: -48 to -60V DC  
Power consumption, typical: 70-90 watts (110 watts maximum)<sup>1</sup>

### Environmental

Operating temperature: 0 to 55°C  
Storage temperature: -40 to 70°C  
MTBF: 87,600 hours  
Non-operating (Shock and Vibration): ISTA-2A, IEC60068-2-6, 60068-2-64, 60068-2-27

### Management

#### Command line interface:

RS-232 serial console port  
TELNET and SSH

#### Dedicated management network:

4x 10BASE-T/100BASE-TX Ethernet ports  
IPv4/IPv6 dual stack  
IPv4 forwarding, RIP routing  
DHCP boot client, BOOTP relay  
DHCP server

#### Security:

Simple password  
Local account database  
RADIUS and TACACS+ client  
Host-based access control lists (ACLs)

#### Monitoring:

Network Syslog, Local event log  
SNMP versions 1 and 2C  
RFC1213-MIB, SNMPv2-MIB, IF-MIB, XKL-MIB

#### Administration:

SNTP time synchronization client  
TFTP file transfer client  
Telnet remote command-line client  
Reboot and upgrade management operating system without interrupting customer data

### Redundancy, Availability, Scalability

1+1, redundant, hot-swap power supplies  
Redundant hot-swap fans  
Hot-swap OSC (Optical Service Channel) transceivers  
Field-replaceable dual flash storage modules, one is write-protected  
Optical network uninterrupted during software reset and upgrade  
System-wide watchdog timer to ensure software response

### Topology Compatibility

Point-to-point  
Linear add/drop  
Ring

### Architecture/Chassis

Integrated Systems Architecture

#### DMD-A (single)

One 48 or 96 channel filter  
One 4-band or 6-band filter  
Up to 2 EDFAs  
Up to 1 DCM  
Up to 1 Optical Switch

#### DMD-A (dual)

Two 48 or 96 channel filters  
Two 4-band or 6-band filters  
Up to 4 EDFAs  
Up to 2 DCM

### Optical Features

Optical loss:  
6.5dB - 96 channel mux or demux  
5.0dB - 48 channel mux or demux  
0.5dB - Optical Service Channel (OSC)  
OSC passband: 1503.5nm-1516.5nm  
Line monitoring port, 2% tap  
Pin = -35dBm  
Max. NF = 5.5dB (optimum gain and power settings)  
Max gain = 43dB<sup>2</sup>  
Gain flatness = ±0.75dB<sup>2</sup>

### Supported Wavelengths

96 channel filter:  
ITU channels 14 - 61.5, 1566.31nm - 1528.38nm  
50GHz channel spacing  
48 channel filter:  
ITU channels 14 - 61, 1566.31nm - 1528.77nm  
100GHz channel spacing

#### 4-band filter

192.45 THz ± 463.75 GHz  
193.45 THz ± 463.75 GHz  
194.45 THz ± 463.75 GHz  
195.45 THz ± 463.75 GHz

#### 6-band filter

191.45 THz ± 463.75 GHz  
192.45 THz ± 463.75 GHz  
193.45 THz ± 463.75 GHz  
194.45 THz ± 463.75 GHz  
195.45 THz ± 463.75 GHz  
196.45 THz ± 463.75 GHz

### Standards Compliance

**UL:** IEC 60950-1(ed.1), IEC 60825-1:2007 (2nd Edition)  
**FCC:** Conducted and Radiated Emissions, Part 15 Subpart B Sections 15.107 and 15.109 Class A  
**CE:** EN55024 (1998 w/A1:01 & A2:03, EN61000-3-2 (2006), EN61000-3-3 (1995 w/A1:01 & A2:06), EN55022 (2006) Class A & CISPR 22 (2005) Class A

<sup>1</sup>Typical DMD-A has 1 EDFA and fans running at nominal speed.

<sup>2</sup>22dB gain ingress and egress for optimum gain flatness

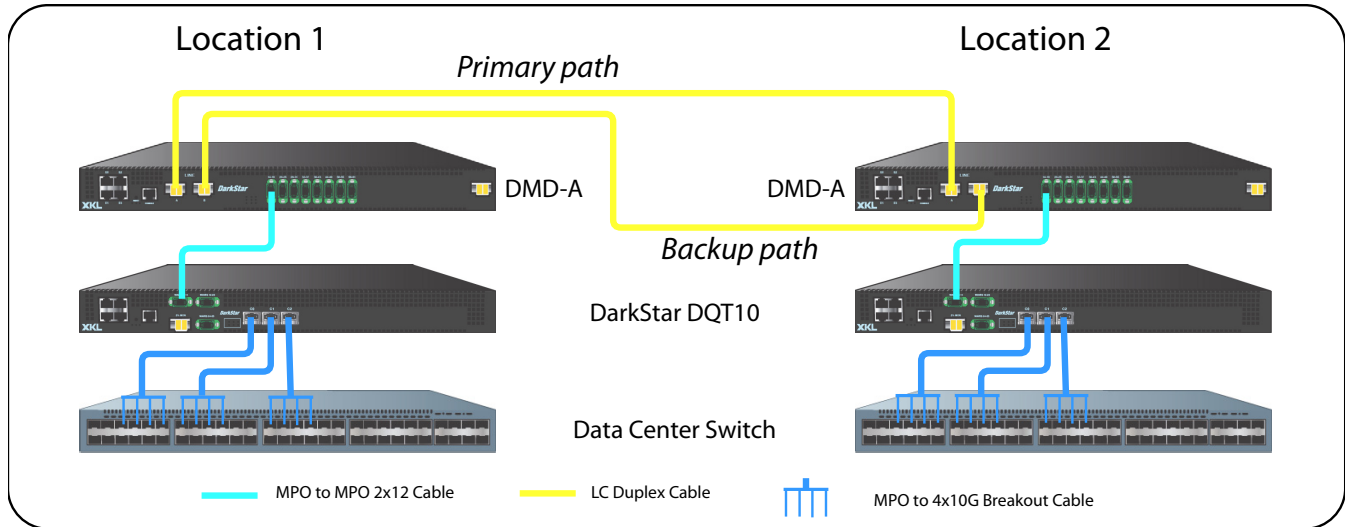


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### Sample Use Cases

#### Protected Point to Point Topology



#### Ring Topology

