



DarkStar® DQM10 Series

12-36 Channel DWDM Muxponders



Technical Specifications

Physical Dimensions

Height: 1RU
Width/Depth: 16.9"/27.25" (29.5" with cable relief)
Weight, minimum: 32lbs (No options: EDFA, DCM, etc.)

Power Requirements

Power input AC: 90-264V AC, 50/60Hz
Power input DC: -40 to -75V DC
Power consumption, typical:
DQM10 (12 channel): 90W
DQM10 (24 channel): 140W
DQM10 (36 channel): 190W

Environmental

Operating temperature: 0 to 50°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 laser transceivers: SFP+, QSFP+, and OSC (Optical Service Channel)
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

Architecture

Integrated systems architecture - Mux/demux filter, EDFA(s), dispersion compensation (DCM)
No layer 2-3 payload/protocol processing as well as no data buffering.
This is both a reliability and security feature, impossible to access transport data through management network.

Optical Wavelengths

Client: QSFP+: 40GBase-SR4 (4 x 850nm), 40GBase-PSM4 (4 x 1310nm), 40GBase-LR4 (CWDM: 1271nm, 1291nm, 1311nm, 1331nm)
Line-side Optics: 1528.77nm-1566.31nm with 100GHz spacing
Integrated Filter Loss: 10dB (Typical 36 Channel Mux+Demux)

Supported Interfaces

Ethernet: 1GE, 10GE, 10GE+FEC, 40GE (4 lambdas), 100GE (10 lambdas)
SONET: OC48/STM16, OC192/STM64, OC192+FEC
Fibre Channel: 2G, 4G, 8G, 10G
Number of client-side ports per system: 3/6/9 (QSFP+)
Number of line-side ports per system: 12/24/36 (SFP+)

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

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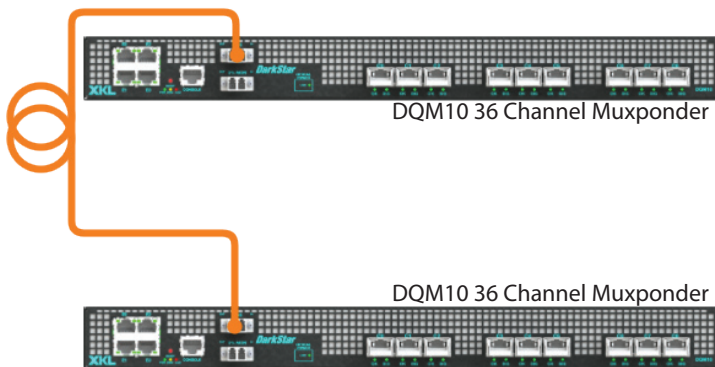


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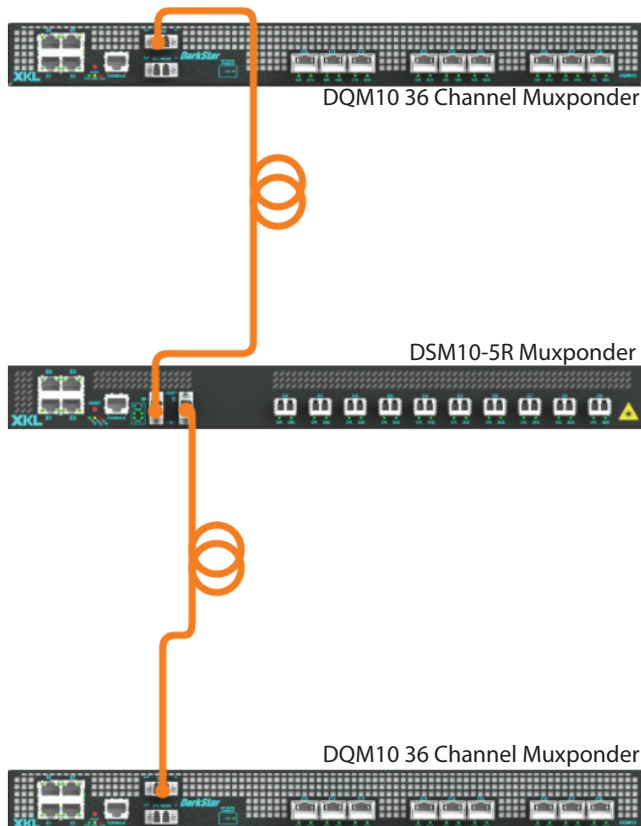
12-36 Channel DWDM Muxponders

Use Cases

Use Case: 36 x 10G Point-to-Point



Use Case: DQM10 Linear Topology with DSM10-5R mid-stage



Installation

Appliances install in under an hour and require 1RU of rack space.

Flexible and Innovative

XKL's DQM10 appliance allows customers to integrate EDFA amplifiers, filters, and other components that are required for any topology. DQM10 systems are field upgradable appliances that grow from 120G to 240G or 360G in 1RU and are ideal for point-to-point applications and Data Center Interconnect. Seamlessly integrate 10G and 100G DarkStar products.

Performance and Latency

DQM10 appliances are Layer 1 devices and operate at line speed. A market leader in low latency, latency for the DQM10 is 25 nanoseconds.

Hitless Upgrade

Operating system upgrades are typically once per year and take about 20 minutes. The upgrade is reversible and launches from a single command. A DQM10 appliance can be rebooted without affecting customer data.

No License Fees

No recurring cost for license fees, for the life of the product.

Pay As You Grow

1RU systems are field upgradeable, from 120G to 240G or 360G. The DQM10 is ideal for those who are unsure about future bandwidth requirements.

Reduce Recurring Cost

Industry-leading low power consumption, a typical DQM10 (12 channel) uses 90 watts.

DQM10 Field Upgradeable Muxponder Models

DQM10 (12 channels): 12 x 10G

DQM10 (24 channels): 24 x 10G

DQM10 (36 channels): 36 x 10G

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