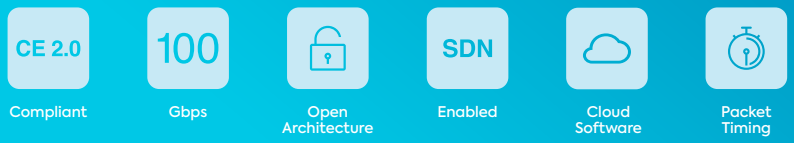
Adtran

Data Sheet

SDX 6000 Series

SD-Access PON OLTs



Benefits

- **Built for Open, Vendor-Neutral Aligned Networks**
- **Pay-As-You-Grow Disaggregated Architecture**
- **Supported by Targeted, Domain-Specific Integration Services**
- **Integrated Into Leading Access Domain Control and Orchestration Solutions**
- **Supports Control Plane Portability for Simplifying Transition to Virtualized Networks**
- **Best-In-Class Scalability to Support Dense Urban and Rural Applications**
- **Inclusive of 10G Combo PON, XGS-PON, and GPON Variants**

Overview

The Adtran SDX 6000 Series of software-defined access (SD-Access) OLTs consists of open and disaggregated access devices that support a broad range of PON standards, including 10G Combo PON, XGS-PON, and GPON. These devices are built using modern design principles and apply lessons learned from data center networks. This approach is an architectural shift from previous networks that have historically relied on closed, monolithic systems managed by vendor-specific management systems. This evolution enables operators to vastly lower their costs to build, operate, innovate, and grow their networks.

Open, Programmable, Scalable

Built around an open architecture, the SDX 6000 Series of OLTs can be aggregated by any high-density aggregation system, including the SDX 8000 Series of Nx100G next-generation aggregation switches. From a programmability perspective, these OLTs have open APIs that utilize standard NETCONF/YANG interfaces for all management functions, easing the integration into an SDN-controlled environment. For scalability, they are built around a pay-as-you-grow architecture where service providers simply add GPON/10G PON OLTs as needed without the upfront investment or the system constraints of a big, iron chassis system. In addition to being open, programmable, and scalable, all embedded software functions in the OLT, including ONU management and PON provisioning, are virtualized and can be hosted on an external server to enable massive scalability and avoid the system constraints of embedded processing systems.

SDX 6000 Series OLTs offer all the carrier-class features (i.e., ONU management, clocking, VLAN tag manipulation, resiliency, etc.) of traditional chassis-based OLT systems but with more flexibility and scalability and an open architecture that cannot be matched by a closed, vendor-specific chassis system.

Open, SDN-Programmable Architecture

The SDX 6000 Series is complemented by the Mosaic Software Suite, which offers a modern management system with full FCAPS functionality and an intuitive GUI for device configuration and service activation. Open, standards-based northbound APIs simplify integration into existing IT/OSS systems enabling automation of network and service management and easing the migration to SDN-based orchestration and management systems.

SDX 6000 SERIES

Portfolio Summary

SDX 6330-48
48-Port Hardened 10G Combo PON OLT

- 48 (96)* 10G Combo PON Ports
- 2x200GE, 2x100GE, and 2x10/25GE Uplinks
- Side-to-Side or Front-to-Back Airflow Options
- Hardened for Remote Cabinet Deployment

SDX 6020-48
48-Port GPON OLT

- 48 GPON Ports
- 4x100GE and 4x10GE Uplinks
- Side-to-Side Airflow
- Lower Power and Cost Per Port for High-Density Sites

SDX 6010-16
16-Port GPON OLT

- 16 GPON Ports
- 2x40GE and 4x10GE Uplinks
- Side-to-Side or Front-to-Back Airflow Variants
- Side-to-Side Variant Hardened for Remote Cabinet Deployment

SDX 6320-16
16-Port Hardened 10G Combo PON OLT

- 16 (32)* 10G Combo PON Ports
- 4x100GE and 4x10GE Uplinks
- Side-to-Side or Front-to-Back Airflow Options
- Hardened for Remote Cabinet Deployment

SDX 6312-4
4-Port Sealed 10G Combo PON OLT

- 4 (8)* 10G Combo PON Ports
- 4x10GE Uplinks
- Environmentally Sealed Unit (IP68)
- Fanless Conductive Cooling
- Stand, Pole, Wall, or Pedestal Mount Options

**Supports separate or simultaneous XGS-PON and GPON delivery per interface*

Product Specifications

Feature	6330-48	6320-16	6020-48	6010-16	6312-4
10G Combo PON Supported	●	●			●
XGS-PON Interfaces	48	16			4
GPON Interfaces	48	16	48	16	4
Uplink Interfaces	2x200GE QSFP-DD 2x100GE QSFP28 2x10/25GE SFP28	4x100GE QSFP28 4x10GE SFP+	4x100GE QSFP28 4x10GE SFP+	2x40GE QSFP+ 4x10GE SFP+	4x10GE SFP+
Jumbo Frames MTU	9216 Bytes	9216 Bytes	9216 Bytes	9216 Bytes	9216 Bytes
MAC Addresses	256K	256K	256K	256K	256K
Multicast Bundles	50	50	50	50	50
Multicast Streams	32K	32K	32K	32K	32K
Rack Units	2.5RU	1.5RU	2RU	1RU	Environmentally Sealed
Mounting Brackets	19, 21, 23-in	19, 21, 23-in	19, 21, 23-in	19, 21, 23-in	
Airflow Options	S2S	S2S	S2S	S2S, F2B	Fanless Conductive Cooling
Baffle Kits Available	F2B, F2T, B2T	F2B, F2T, B2T			
Dimensions (DxWxH)	225 x 387 x 110 mm	225 x 387 x 66 mm	235 x 437 x 87 mm	S2S: 236 x 437 x 44 mm F2B: 336 x 437 x 44 mm	243 x 515 x 280 mm
Weight	14.2 lbs/6.4 kg	10.14 lbs/4.6 kg	13 lbs/5.9 kg	8.8 lbs/4 kg	35 lbs/16 kg
Powering Options	-48VDC Redundant Feed	-48VDC Redundant Feed	-48VDC Redundant Feed	-48VDC Redundant Feed	AC/DC, Span or CATV
Typ Power Consumption Without Optics	220 W	220 W	220 W	95 W	70 W
Max Power Consumption Without Optics	300 W	280 W	280 W	141 W	80 W
Temperature Range	-40 to 65°C	-40 to 70°C	-40 to 65°C	S2S: -40 to 65°C F2B: 0 to 50°C	-40 to 65°C
Relative Humidity	up to 95% non-condensing	up to 95% non-condensing	up to 95% non-condensing	up to 95% non-condensing	up to 95% non-condensing

SDX 6000 SERIES

Product Specifications

Interfaces

- ITU-T Compliant for GPON and XGS-PON
- Class B+, C+, C++, and D SFP Support
  - 60 km Extended Range Support
- Class N1, N2, D1, and D2 SFP+ Support
  - 40 km Extended Range Support
- Forward Error Correction (FEC)
- Type B PON Redundancy (Future)
- Rogue ONU Detection (Future)

Uplink Connectivity

- Daisy Chaining For E-Line Services
- Ethernet Ring Protection Switching (ERPS) (Future)
- Ethernet Linear Protection Switching (ELPS)
- Multiprotocol Label Switching (MPLS)
  - Label Add/Remove Support
- Ethernet OAM
- LAG with LACP Support, LLDP-Enabled
- Zero Touch Provisioning (ZTP)

Subscriber Service Delivery

- G.988 VEIP Support For Residential Gateways
- Triple-Play – Voice, Video, and Data
- IGMP Snooping and Proxy
- DHCP Relay For IPv4 and IPv6
- DHCP Option 82 Support
- PPPoE Intermediate Agent
- Proxy ARP

Security

- TACACS+ and RADIUS (Authentication, Authorization)
- Subscriber Access Lists (ACL)
- AES Encryption
- DoS Protection
- Anti-Spoofing Prevention

Traffic Management

- HQoS Architecture
  - Flexible Multitier Scheduling
  - Dual Rate Shapers Per Scheduled Node
- Dynamic Bandwidth Allocation
- E-Line and E-LAN Forwarding Schemes

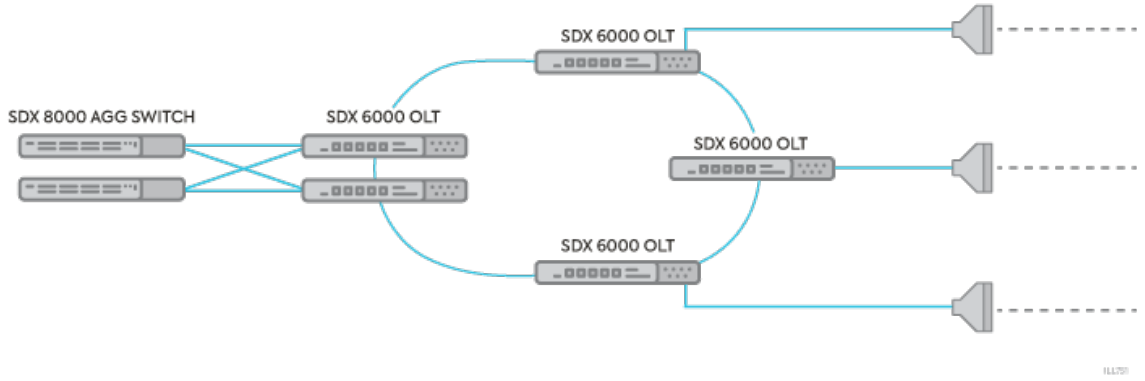
Network Management and Timing

- NETCONF/YANG
- CLI
- Telnet/SSH
- IPv4/IPv6 In-Band/Out-of-Band Management
- Syslog
- Synchronous Ethernet (Future)
- 1588v2 Precision Time Protocol (Future)

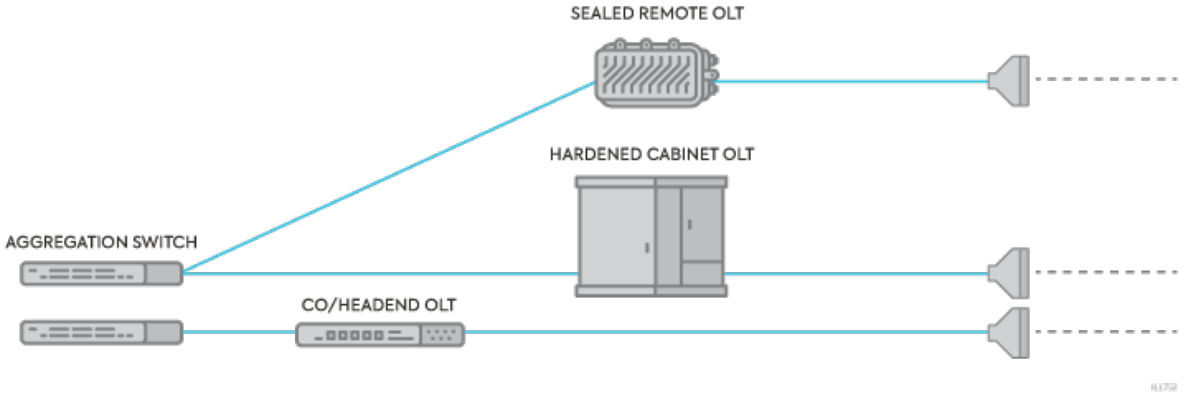
Regulatory Standards

- Applicable UL/CUL Standards
- Applicable EN/IEC/AS/NZS Standards
- FCC Part 15 Class B
- CE Mark (meets applicable safety, EMC, and energy efficiency directives)
- NEBS Level 3

Ring Topology Solution



Disaggregated Solution



**Example deployment scenarios shown are not inclusive of all deployment options*

SDX 6000 SERIES

Ordering Information

Equipment		Part No.
SDX 6330-48	48-Port 10G Combo PON OLT	11971340F1
SDX 6320-16	16-Port 10G Combo PON OLT	11971330F1
SDX 6020-48	48-Port GPON OLT	11971301F1
SDX 6010-16	16-Port GPON OLT, Side-to-Side Airflow	11971305F1
	16-Port GPON OLT, Front-to-Back Airflow	11971305F2
SDX 6312-4	4-Port Sealed 10G Combo PON OLT, AC/DC Power Supply	41971310F1
	4-Port Sealed 10G Combo PON OLT, Span Power Supply	41971310F2
	4-Port Sealed 10G Combo PON OLT, CATV Power Supply	41971310F3

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