The D-Link 5000 Series Data Center Switches are a series of high-performance switches that feature high port density, routing, and ultra-low latency, designed to be deployed as Top-of-Rack (ToR) or leaf-spine switches in data center applications. Combined with ONIE support and increased cost-efficiency, the 5000 Series form a flexible long-term solution for managing and expanding data center infrastructures in a Software-defined Networking (SDN) environment.

### Bare Metal and Open Networking Data Center Switches

The 5000 Series switches support open networking, providing IT professionals with innovative third-party operating systems and software options. This lowers costs by separating software from hardware and increases network agility and flexibility. With support for standards-based tools and standards-based applications, open networking simplifies scalability and future-proofs the network.

As bare metal switches, the 5000 Series switches ship pre-loaded with Open Network Install Environment (ONIE). ONIE is an open source install environment that acts as an enhanced boot loader. This small Linux operating system allows administrators to install the network operating system(s) of choice as part of the data center provisioning process in the same manner that servers are provisioned. In addition, the 5000 Series also offers network administrators the option to purchase a license to activate the D-Link OS on the switches.

### High Availability and Reliability

The 5000 Series switches feature a modular fan and power supply design for a high availability architecture. The hot-swappable design means that fans and power supplies can be replaced without affecting switch operation. Load sharing enables both power supplies to evenly distribute load to increase reliability and lifetime. Meanwhile, 1+1 redundancy minimizes downtime in case of a single power supply failure.
### Flexibility and Versatility
The 5000 Series switches are available in a variety of high-capacity interface combinations, including SFP+, QSFP+, SFP28, and QSFP28 ports to accommodate the scale and requirements of data centers. Open Network Install Environment (ONIE) support means the switches can be easily integrated in existing network ecosystems using a variety of supported third-party Network Operating Systems (NOSs) for optimal compatibility. Furthermore, the ability to pick and choose software based on practical requirements eliminates the restrictions imposed by vendor-locked software environments.

### Cost-Efficient with Dedicated Support
Compared to traditional switches, the 5000 Series offer a more cost-efficient solution through a lower initial purchasing cost combined with a reduced long-term Total Cost of Ownership (TCO). The 5000 Series switches feature front-to-back and back-to-front airflow which optimizes air circulation inside the rack and facilitates the building of energy-efficient data centers by separating the hot and cold aisles. The switches also feature built-in smart fans; internal heat sensors monitor and detect temperature changes, and react accordingly by utilizing different fan speeds for different temperatures. At lower temperatures, the fans will run more slowly, reducing the switch's power consumption and noise.

### Rich and Comprehensive D-Link OS Software
#### Data Center and Virtualization Features
Data Center Bridging (DCB) is an essential set of enhancements to Ethernet for networking in data center environments. The D-Link OS for the 5000 Series switches supports several core components of Data Center Bridging (DCB) such as IEEE 802.1Qbb, IEEE 802.1Qaz, IEEE 802.1Qau, and VXLAN. IEEE 802.1Qbb (Priority-based Flow Control) provides flow control on specific priority levels to ensure there is no data loss during network congestion. IEEE 802.1Qaz (Enhanced Transmission Selection) manages the allocation of bandwidth amongst different traffic classes. IEEE 802.1Qau (Congestion Notification) provides congestion management for data flows within network domains to avoid congestion. Meanwhile, VXLAN allows network administrators to deploy larger and more flexible VLAN architectures. Using a 24 bit ID, VXLAN greatly increases the number of simultaneous VLANs. Compared to the 4096 limit of traditional VLAN protocols, VXLAN enables the deployment of up to 16 million isolated logical networks across Layer 3 subnets, to accommodate the increasing scale of virtualized cloud environments.

#### Complete Layer 2/3 Functionality
The 5000 Series switches feature a complete L2 and L3 feature set to meet the demands of data center applications. Layer 2 features include L2 switching, L2 multicast, advanced Quality of Service (QoS), and robust security features. Meanwhile, the 5000 Series offers advanced L3 routing for enterprise integration, including OSPF, BGP, Graceful Restart, Bidirectional Forwarding Detection (BFD), and L3 multicast.

### Deployment Scenarios
#### Leaf-Spine Configuration
![Leaf-Spine Configuration Diagram]
## Technical Specifications

<table>
<thead>
<tr>
<th>General</th>
<th>DXS-5000-54S</th>
<th>DQS-5000-32S</th>
<th>DQS-5000-32Q28</th>
<th>DQS-5000-54SQ28</th>
</tr>
</thead>
</table>
| Interfaces | • 48 x 10G SFP+ ports  
           • 6 x 40G QSFP+ ports  
           • 1 x USB 2.0 port | • 32 x 40G QSFP+ ports  
                             • 1 x USB 2.0 port | • 32 x 100G QSFP28 ports  
                                         • 1 x USB 2.0 port | • 48 x 25G SFP28 ports  
                                           • 6 x 100G QSFP28 ports  
                                             • 1 x USB 2.0 port |
| Console Port | • 1 x mini-USB console port | • 1 x RJ-45 console port | • 1 x RJ-45 console port | • 1 x mini-USB console port |
| OOB Management Port | • 1 x RJ-45 port | • 1 x RJ-45 port | • 1 x RJ-45 port | • 1 x RJ-45 port |

| Performance | | | | |
| Switching Capacity | • 1.44 Tbps | • 2.56 Tbps | • 6.4 Tbps | • 3.6 Tbps |
| Max. Forwarding Rate | • 1,071 Mpps (1.071 Bpps) | • 1,428 Mpps (1.428 Bpps) | • 2,980 Mpps (2,980 Bpps) | • 2,380 Mpps (2.380 Bpps) |
| Packet Buffer Memory | • 12 MB | • 12 MB | • 16 MB | • 16 MB |
| MAC Address Table | • 288K | • 288K | • 40K | • 40K |

| Physical | | | | |
| Power Input | • 1+1 redundant power supply design  
              • Input: 100 to 240 V AC, 50/60 Hz | | | |
| Maximum Power Consumption | • 295 W | • 406 W | • 420 W | • 395 W |
| Heat Dissipation (Max.) | • 1006.58 BTU/hr | • 1385.27 BTU/hr | • 1433.04 BTU/hr | • 1347.74 BTU/hr |
| Fans | • 4 x fans | • 4 x fans | • 4 x fans | • 4 x fans |
| Acoustics | • Max: 74 dB  
            • Min: 62 dB | • Max: 69.8 dB  
                            • Min: 59.5 dB | • Max: 71.8 dB  
                                         • Min: 57.2 dB | • Max: 72.3 dB  
                                           • Min: 58.6 dB |
| Dimensions (W x D x H) | • 440 x 406 x 44 mm (17.32 x 16 x 1.73 inch) | | | |
| Weight | • 9 kg (19.8 lbs) | • 9 kg (19.8 lbs) | • 8.7 kg (19.2 lbs) | • 9 kg (19.8 lbs) |
| Operating Temperature | • 0 to 45 ºC (32 to 113 ºF) | | | |
| Storage Temperature | • -40 to 70 ºC (-40 to 158 ºF) | | | |
| Operating Humidity | • 5% to 95% RH, non-condensing | | | |
| Storage Humidity | • 5% to 95% RH, non-condensing | | | |
| MTBF | • 205,000 hours | • 85,937 hours | • 206,685 hours | • 205,500 hours |

| Certifications | | | | |
| Safety | • cULus  
        • CCC  
        • BSMI | | | |
| EMI/EMC | • FCC/IC  
         • CCC  
         • CB | | | |
<table>
<thead>
<tr>
<th>L2 Features</th>
<th></th>
</tr>
</thead>
</table>
| **MAC address table** | · DXS-5000-54S/DQS-5000-32S: Up to 288K entries  
· DQS-5000-32Q28/DQS-5000-54SQ28: Up to 40K entries |
| **L2 Multicast Features** | · Supports 802.3x Flow Control  
· Jumbo frame  
· DXS-5000-54S/DQS-5000-32S: Up to 9 Kb  
· DQS-5000-32Q28/DQS-5000-54SQ28: Up to 9 Kb |
| **Port mirroring** | · Supports One-to-One, Many-to-One  
· Supports mirroring for Tx/Rx/Both  
· Supports up to 4 mirroring groups  
· Flow mirroring  
· Supports Rx mirroring  
· VLAN mirroring  
· RSPAN  
· Loopback Detection (LBD) |
| **VLAN** | · 802.1Q  
· Port-based VLAN  
· Multicast VLAN ISM VLAN for IPv4/IPv6  
· Private VLAN  
· Broadcast/unicast/multicast control  
· SSN  
· Supports v1/v1.5/v2.0  
· Supports IPv4/IPv6 access  
· Configurable TCP port number  
· Port security  
· Supports up to 600 MAC addresses per port  
· DoS attack prevention |
| **Security** | · IP Source Guard  
· DHCP Snooping  
· IPv6 Snooping  
· DHCP Server Screening  
· Dynamic ARP Inspection (DAI)  
· IPv6 Route Advertisement (RA) Guard  
· Duplicate Address Detection (DAD)  
· BPDU Attack Protection |
| **Software Features (D-Link OS)** |  |
| **L2 Features** | · VLAN  
· 802.1D STP  
· 802.1s MSTP  
· BPDU Filter/Guard  
· Loop Guard  
· TCN Guard  
· Root Guard |
| **L2 Multicast Features** | · IGMP Snooping  
· IGMP Snooping v1/v2/v3  
· IGMP Fast Leave  
· Supports up to 256 IGMP groups  
· Per-VLAN IGMP Snooping  
· IGMP Snooping Querier |
| **L3 Features** | · VRP v2  
· UDP Helper  
· ICMP Router Discovery Protocol (IRDP)  
· Equal-Cost Multi-Path (ECMP)  
· IPv6 Tunneling  
· 6to4  
· GRE  
· IPv4/IPv6 Loopback interface |
| **L3 Routing** | · IPv4/IPv6 Default Route  
· Null Route  
· Route Preference  
· Route Redistribution  
· Graceful Restart (GR) for OSPF  
· Bidirectional Forwarding Detection (BFD) for OSPF  
· BGP  
· BGPv4/BGPv+  
· Max. 256 BGP neighbors  
· Supports MDS authentication  
· Policy-based Route (PBR)  
| **L3 Multicast Features** | · SSM Mapping for IPv4/IPv6  
· PIM-DM IPv4/IPv6  
· PIM-OSPF IPv4/IPv6  
· IGMP/MLD proxy |
| **VLAN** | · 802.1Q  
· Port-based VLAN  
· Multicast VLAN ISM VLAN for IPv4/IPv6  
· Private VLAN |
| **Security** | · Broadcast/unicast/multicast control  
· SSN  
· Supports v1/v1.5/v2.0  
· Supports IPv4/IPv6 access  
· Configurable TCP port number  
· Port security  
· Supports up to 600 MAC addresses per port  
· DoS attack prevention |
| **L3 Features** | · IP interfaces  
· ARP  
· Supports 6K ARP entries  
· Supports 256 static ARP entries  
· IPv6 Neighbor Discovery (ND)  
· Supports up to 2560 ND entries  
· Supports up to 32 static ND entries  
· Gratuitous ARP |
| **L3 Routing** | · Static routing  
· Max. 64 IPv4 entries  
· Max. 64 IPv6 entries  
· Supports Equal-Cost-Multi-Path Route (ECMP)  
· OSPF  
· OSPF v2/v3  
· Stub/NSA Area  
· OSPF Passive Interface  
· Text/MD5 authentication  
· Supports Equal-Cost-Multi-Path Route (ECMP)  
| **L3 Multicast Features** | · IGMP v1/v2/v3  
· MLD v1/v2  
· DVMRP v3  
· PIM-SSM  |
| **L3 Multicast Features** | · SSM Mapping for IPv4/IPv6  
· PIM-DM IPv4/IPv6  
· PIM-OSPF IPv4/IPv6  
· IGMP/MLD proxy  
| **VLAN** | · 802.1Q  
· Port-based VLAN  
· Multicast VLAN ISM VLAN for IPv4/IPv6  
· Private VLAN  
· Double VLAN (Q-in-Q)  
· VLAN groups  
· Max. 4K VLAN groups  
· Max. 1~4093 VLAN IDs  
| **Security** | · Broadcast/unicast/multicast control  
· SSN  
· Supports v1/v1.5/v2.0  
· Supports IPv4/IPv6 access  
· Configurable TCP port number  
· Port security  
· Supports up to 600 MAC addresses per port  
· DoS attack prevention |
| **L2 Features** | · Supports 802.3ad Link Aggregation  
· Max. 64 groups per device  
· Max. 32 ports per group  
· Spanning Tree Protocol (STP)  
· 802.1D STP  
· 802.1s MSTP  
· BPDU Filter/Guard  
· Loop Guard  
· TCN Guard  
· Root Guard  
| **L2 Multicast Features** | · IGMP Snooping  
· IGMP Snooping v1/v2/v3  
· IGMP Fast Leave  
· Supports up to 256 IGMP groups  
· Per-VLAN IGMP Snooping  
· IGMP Snooping Querier  
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· Supports up to 32 static ND entries  
· Gratuitous ARP  |
| **L3 Routing** | · Static routing  
· Max. 64 IPv4 entries  
· Max. 64 IPv6 entries  
· Supports Equal-Cost-Multi-Path Route (ECMP)  
· OSPF  
· OSPF v2/v3  
· Stub/NSA Area  
· OSPF Passive Interface  
· Text/MD5 authentication  
· Supports Equal-Cost-Multi-Path Route (ECMP)  
| **L3 Multicast Features** | · IGMP v1/v2/v3  
· MLD v1/v2  
· DVMRP v3  
· PIM-SSM  |
| **VLAN** | · 802.1Q  
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· Multicast VLAN ISM VLAN for IPv4/IPv6  
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| **Security** | · Broadcast/unicast/multicast control  
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· IGMP Snooping v1/v2/v3  
· IGMP Fast Leave  
· Supports up to 256 IGMP groups  
· Per-VLAN IGMP Snooping  
· IGMP Snooping Querier  |
## Authentication, Authorization, Accounting (AAA)
- 802.1X authentication
  - Supports port-based access control
  - Supports host-based access control
- Identity-driven policy assignment
  - Dynamic VLAN assignment
  - 802.1Q assignment
  - ACL assignment
  - Guest VLAN
  - RADIUS authentication
- TACACS+ authentication
  - MAC-based Access Control (MAC)
  - Supports port/host-based access control
  - Compatible with RADIUS server authentication
  - Authentication for management access
  - Privilege level for management access
  - Authentication database failover
  - RADIUS/TACACS+ accounting

## Quality of Service (QoS)
- Max. of 8 priority queues per port
- Queue handling
  - Strict Priority (SP)
  - Weighted Deficit Round Robin (WDRR)
- Congestion control
  - Weighted Random Early Detection (WRED)
- Bandwidth control
  - Queue-based bandwidth control; min. granularity of 1% of the port speed
- Three Color Marker
  - Two Rate Three Color Marker (trTCM)
  - Single Rate Three Color Marker (srTCM)
- Class of Service (CoS)
  - Switch port
  - Outer 802.1p priority
  - ToS/IP preference
  - DSCP
  - Policy Map
    - Remark 802.1p priority
    - Remark ToS/DSCP
  - Rate limiting

## Data Center Features
- Open Network Install Environment (ONIE)
- FCoE Initialization Protocol (FIP) Snooping
- 802.1Qau Congestion Notification (CN)
- 802.1Qbb Priority-based Flow Control (PFC)
- 802.1Qaz Enhanced Transmission Selection (ETS)
- Data Center Bridging Exchange (DCBX)
- OpenFlow v1.3
- Open API
  - Supports Puppet/Chef
  - Virtual eXtensible Local Area Network (VXLAN)

## Access Control List (ACL)
- MAC Access List based on:
  - 802.1p priority mask
  - VID mask
  - Source/destination MAC address mask
  - Ether Type mask
- IP Access List based on:
  - Source/destination IP address mask
  - IP preference/ToS mask
  - TCP/UDP port number mask
- IPv6 Access List based on:
  - Source/destination IP address mask
  - TCP/UDP port number mask
- CPU interface filtering
  - Max. 1023 rule entries
- Time-based ACL
  - Max. ACL entries:
    - Max. ingress ACL entries: 16K
    - Max. egress ACL entries: 16K
    - Max. number of access control lists: 100
    - Max. VLAN access maps: 24
    - Max. ACL rule entries: 1K:

## Management
- Industry-standard CLI
  - Telnet server for IPv4/IPv6 access
  - TFTP client for IPv4/IPv6
  - FTP client for IPv4/IPv6
  - Secure FTP (SFTP) client for IPv4/IPv6
  - Multiple images
  - Dual configurations
  - SNMP
    - Supports SNMP v1/v2c/v3
    - Supports IPv4/IPv6
    - SNMP traps
    - System log for IPv4/IPv6 Syslog server
    - Command logging
    - SMTP
    - RMON v1
    - Supports 1/2/3/9 groups
    - DHCP/BOOTP Client support for IPv4/IPv6 DHCP/BOOTP server
    - DHCP Relay
    - Supports IPv4/IPv6
    - Option 82
    - Supports user-defined TLV for Option 82
- Event log
- DNS client
- SNTPV4
- LLDP/LLDP-MED
- CDP
- ULDLD
- sFlow v5
- DHCP auto-configuration
- DHCP auto-image
- Flash file system
- DNS client for IPv4/IPv6
- Debug command
- Password recovery/encryption
- Supports IPv4/IPv6 Ping/Traceroute
## Ordering Information (Bare Metal)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DXS-5000-54S/AF</td>
<td>48-port 10G SFP+, 6-port 40G QSFP+ interfaces data center switch with 2 front-to-back AC PSUs, 4 front-to-back fan modules</td>
</tr>
<tr>
<td>DXS-5000-54S/AB</td>
<td>48-port 10G SFP+, 6-port 40G QSFP+ interfaces data center switch with 2 back-to-front AC PSUs, 4 back-to-front fan modules</td>
</tr>
<tr>
<td>DXS-5000-54S/UF</td>
<td>48-port 10G SFP+, 6-port 40G QSFP+ interfaces data center switch with 2 front-to-back DC PSUs, 4 front-to-back fan modules</td>
</tr>
<tr>
<td>DXS-5000-54S/UB</td>
<td>48-port 10G SFP+, 6-port 40G QSFP+ interfaces data center switch with 2 back-to-front DC PSUs, 4 back-to-front fan modules</td>
</tr>
<tr>
<td>DQS-5000-32S/AF</td>
<td>32-port 40G QSFP+ interfaces data center switch with 2 front-to-back AC PSUs, 4 front-to-back fan modules</td>
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<tr>
<td>DQS-5000-32Q28/AF</td>
<td>32-port 100G QSFP28 interfaces data center switch with 2 front-to-back AC PSUs, 4 front-to-back fan modules</td>
</tr>
<tr>
<td>DQS-5000-32Q28/AB</td>
<td>32-port 100G QSFP28 interfaces data center switch with 2 back-to-front AC PSUs, 4 back-to-front fan modules</td>
</tr>
<tr>
<td>DQS-5000-32Q28/UF</td>
<td>32-port 100G QSFP28 interfaces data center switch with 2 front-to-back DC PSUs, 4 front-to-back fan modules</td>
</tr>
<tr>
<td>DQS-5000-32Q28/UB</td>
<td>32-port 100G QSFP28 interfaces data center switch with 2 back-to-front DC PSUs, 4 back-to-front fan modules</td>
</tr>
<tr>
<td>DQS-5000-54SQ28/AF</td>
<td>48-port 25G SFP28, 6-port 100G QSFP28 interfaces data center switch with 2 front-to-back AC PSUs, 4 front-to-back fan modules</td>
</tr>
<tr>
<td>DQS-5000-54SQ28/AB</td>
<td>48-port 25G SFP28, 6-port 100G QSFP28 interfaces data center switch with 2 back-to-front AC PSUs, 4 back-to-front fan modules</td>
</tr>
<tr>
<td>DQS-5000-54SQ28/UF</td>
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</tr>
<tr>
<td>DQS-5000-54SQ28/UB</td>
<td>48-port 25G SFP28, 6-port 100G QSFP28 interfaces data center switch with 2 back-to-front DC PSUs, 4 back-to-front fan modules</td>
</tr>
<tr>
<td>DXS-PWR550AC/F</td>
<td>550 W AC modular power supply with front-to-back airflow</td>
</tr>
<tr>
<td>DXS-PWR550AC/B</td>
<td>550 W AC modular power supply with back-to-front airflow</td>
</tr>
<tr>
<td>DXS-PWR800DC/F</td>
<td>800 W DC modular power supply with front-to-back airflow</td>
</tr>
<tr>
<td>DXS-PWR800DC/B</td>
<td>800 W DC modular power supply with back-to-front airflow</td>
</tr>
<tr>
<td>DXS-FAN5K/F</td>
<td>5000 Series fan module with front-to-back airflow</td>
</tr>
<tr>
<td>DXS-FAN5K/B</td>
<td>5000 Series fan module with back-to-front airflow</td>
</tr>
</tbody>
</table>

## Optional D-Link OS Activation Licenses

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DXS-SK-54S-DC-LIC</td>
<td>License to activate the D-Link OS on the DXS-5000-54S</td>
</tr>
<tr>
<td>DQS-SK-32S-DC-LIC</td>
<td>License to activate the D-Link OS on the DQS-5000-32S</td>
</tr>
<tr>
<td>DQS-SK-32Q28-DC-LIC</td>
<td>License to activate the D-Link OS on the DQS-5000-32Q28</td>
</tr>
<tr>
<td>DQS-SK-54SQ28-DC-LIC</td>
<td>License to activate the D-Link OS on the DQS-5000-54SQ28</td>
</tr>
</tbody>
</table>

## Optional Management Software

<table>
<thead>
<tr>
<th>Part Number</th>
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</tr>
</thead>
<tbody>
<tr>
<td>DV-700-N25-LIC</td>
<td>D-View 7 - 25 node license</td>
</tr>
<tr>
<td>DV-700-N50-LIC</td>
<td>D-View 7 - 50 node license</td>
</tr>
<tr>
<td>DV-700-N100-LIC</td>
<td>D-View 7 - 100 node license</td>
</tr>
<tr>
<td>DV-700-N250-LIC</td>
<td>D-View 7 - 250 node license</td>
</tr>
<tr>
<td>DV-700-N500-LIC</td>
<td>D-View 7 - 500 node license</td>
</tr>
<tr>
<td>DV-700-N1000-LIC</td>
<td>D-View 7 - 1000 node license</td>
</tr>
</tbody>
</table>
## 5000 Series Data Center Switches

<table>
<thead>
<tr>
<th>License Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DV-700-P5-LIC</td>
<td>D-View 7 - 5 probe license</td>
</tr>
<tr>
<td>DV-700-P10-LIC</td>
<td>D-View 7 - 10 probe license</td>
</tr>
<tr>
<td>DV-700-P25-LIC</td>
<td>D-View 7 - 25 probe license</td>
</tr>
<tr>
<td>DV-700-P50-LIC</td>
<td>D-View 7 - 50 probe license</td>
</tr>
<tr>
<td>DV-700-P100-LIC</td>
<td>D-View 7 - 100 probe license</td>
</tr>
</tbody>
</table>

### Optional 10G SFP+ Transceivers

<table>
<thead>
<tr>
<th>Transceiver Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEM-431XT</td>
<td>10GBASE-SR, multi-mode, OM1: 33 m/ OM2: 82 m/ OM3: 300 m (without DDM)</td>
</tr>
<tr>
<td>DEM-432XT</td>
<td>10GBASE-LR, single-mode, 10 km (without DDM)</td>
</tr>
<tr>
<td>DEM-433XT</td>
<td>10GBASE-LR, single-mode, 40 km (without DDM)</td>
</tr>
<tr>
<td>DEM-434XT</td>
<td>10GBASE-ZR, single-mode, 80 km (without DDM)</td>
</tr>
<tr>
<td>DEM-435XT</td>
<td>10GBASE-LRM, multi-mode, 200 m (without DDM)</td>
</tr>
</tbody>
</table>

### Optional WDM (Bidi) SFP+ Transceivers

<table>
<thead>
<tr>
<th>Transceiver Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEM-436XT-BXD</td>
<td>10GBASE-LR, single-mode, 20 km (TX: 1330 nm, RX: 1270 nm) (without DDM)</td>
</tr>
<tr>
<td>DEM-436XT-BXU</td>
<td>10GBASE-LR, single-mode, 20 km (TX: 1270 nm, RX: 1330 nm) (without DDM)</td>
</tr>
</tbody>
</table>

### Optional 40G QSFP+ Transceivers

<table>
<thead>
<tr>
<th>Transceiver Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEM-QX01Q-SR4</td>
<td>40GBASE-SR4, multi-mode, OM3: 100 m / OM4: 150 m</td>
</tr>
<tr>
<td>DEM-QX10Q-SR4</td>
<td>40GBASE-LR4, single-mode, 10 km</td>
</tr>
</tbody>
</table>

### Optional 10G SFP+ Direct Attach Cables

<table>
<thead>
<tr>
<th>Cable Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEM-CB100S</td>
<td>10G SFP+ to SFP+ 1 m Direct Attach Cable</td>
</tr>
<tr>
<td>DEM-CB300S</td>
<td>10G SFP+ to SFP+ 3 m Direct Attach Cable</td>
</tr>
<tr>
<td>DEM-CB700S</td>
<td>10G SFP+ to SFP+ 7 m Direct Attach Cable</td>
</tr>
<tr>
<td>DEM-CB100QXS-4XS</td>
<td>40G QSFP+ to 4 10G SFP+ 1 m Direct Attach Cable</td>
</tr>
</tbody>
</table>

1 Only supported by DXS-5000-54S and DQS-5000-32S.

Updated 2018/03/20