The Alcatel-Lucent OmniSwitch® 6465T is a family of extended temperature, value, Layer 3 Gigabit Ethernet switches. These switches are versatile in nature and can be deployed in a variety of environments such as residential and business metro Ethernet access offered by service providers, in smart cities/buildings or for transportation deployments.

OmniSwitch 6465T switches are a family of extended temperature, compact, gigabit Ethernet switches that are ideal for residential/metro Ethernet triple play applications. The PoE switches offer a value, power-efficient access for powering smart building subsystems such as lighting, CCTV and HVAC. The switches run on the widely deployed and field-proven Alcatel-Lucent Operating System (AOS) that offers high security, reliability, performance and easy management. These switches are designed to operate in an extended temperature range offering reliable operation in -10°C to 60°C ambient temperature range.

The OmniSwitch 6465T 12-port models are designed with an optimized size, low-power consumption and a rich software feature set. This extended temperature PoE model can provide power to a range of new age devices from IP cameras on toll booths to LED lights and building management gateways in smart buildings. These switches are easy to deploy and offer out-of-the-box plug-and-play, zero-touch provisioning, network automation and disaster recovery options. These switches support IEEE 1588v2 PTP for the nanosecond-level precision timing requirements of devices and applications. With support for MACsec on all ports, OmniSwitch 6465T enables end-to-end encrypted networks. The OmniSwitch 6465T family offers advanced system and network level resiliency features and convergence through standardized protocols in a space efficient form factor. OmniSwitch 6465T models can operate with out fan up to 45°C ambient temperature.
Datasheet

Alcatel-Lucent OmniSwitch 6465T

**Features**

<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extended temperature range</td>
<td>Operates at an extended temperature range from -10°C to +60°C offering a reliable operation over a wider temperature range</td>
</tr>
<tr>
<td>Virtual chassis to connect multiple switches for creating a single chassis-like entity</td>
<td>Increases system redundancy, resiliency and system scalability while simplifying deployment, operations and management of the network</td>
</tr>
<tr>
<td>Delivers redundant ring topologies using industry standard protocols</td>
<td>Field upgradable, highly redundant network solution maximizes network uptime</td>
</tr>
<tr>
<td>Switch backup and restore</td>
<td>Simplifying switch replacement in field and minimizing network downtime using USB drive. Encryption of USB ensures optimal security.</td>
</tr>
<tr>
<td>IEEE 1588v2 PTP support</td>
<td>Support for peer-to-peer and end-to-end transparent clock provides precise nanosecond time synchronization for devices on industrial networks</td>
</tr>
<tr>
<td>Simplified installation and service provisioning</td>
<td>Out-of-the-box Zero-touch provisioning and network automation with automatic protocol and topology discovery</td>
</tr>
<tr>
<td>Layer 2 security with MACsec</td>
<td>MACsec encryption support provides a secure network access ensuring data confidentiality and integrity</td>
</tr>
</tbody>
</table>

**Alcatel-Lucent OmniSwitch 6465T models**

The Alcatel-Lucent OmniSwitch 6465T-12 and 6465T-P12 models are power and acoustically optimized, with a half-rack width, and have a fixed configuration chassis in a 1 RU form factor. All models can operate without fan up to 45°C ambient temperature and with fan can operate up to 60°C. Both models have an internal power supply. PoE model is 802.3af/802.3at compliant and offers 115 W of power for PoE attached devices.

All ports of OmniSwitch 6465T-12 and OmniSwitch 6465T-P12 are capable of IEEE 1588v2 and MACsec. OmniSwitch 6465T switches can form a virtual chassis between any models creating a single chassis-like entity using 1G SFP ports. Up to four switches can be connected in a virtual chassis configuration with option to scale up to eight in future. For forming virtual chassis connections, any SFP transceiver or SFP+ Direct attach cables can be used on 1G SFP ports.

**Technical specifications**

<table>
<thead>
<tr>
<th>Models</th>
<th>Gigabit ports (RJ45)</th>
<th>Gig combo ports</th>
<th>100/1000 SFP ports</th>
<th>Primary power</th>
<th>Backup power</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS6465T-12</td>
<td>8</td>
<td>2</td>
<td>2</td>
<td>Internal AC</td>
<td>N/A</td>
<td>Fixed-configuration half-rack width chassis with eight 10/100/1000 Base-T ports, two Gigabit combo ports and two 10/100 Base-X SFP ports.</td>
</tr>
<tr>
<td>OS6465T-P12</td>
<td>8</td>
<td>2</td>
<td>2</td>
<td>Internal AC</td>
<td>N/A</td>
<td>Fixed-configuration half-rack width chassis with eight 10/100/1000 Base-T PoE+ ports, two Gigabit combo ports and two 10/1000 Base-X SFP ports.</td>
</tr>
</tbody>
</table>

**Datasheet**

Alcatel-Lucent OmniSwitch 6465T

* Fans run only if switch is operated at an ambient temperature of +45°C to +60°C. Fans remain off when switch is operating at -10°C to 45°C.
Product matrix

<table>
<thead>
<tr>
<th>Product</th>
<th>OS6465T-12</th>
<th>OS6465T-P12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humidity (operating &amp; storage)</td>
<td>5% to 95% non-condensing</td>
<td>5% to 95% non-condensing</td>
</tr>
<tr>
<td>Altitude</td>
<td>13,000 ft</td>
<td>13,000 ft</td>
</tr>
<tr>
<td>MTBF (Hours)*</td>
<td>1,953,053</td>
<td>1,298,328</td>
</tr>
<tr>
<td>Power Supply efficiency</td>
<td>85%</td>
<td>85%</td>
</tr>
<tr>
<td>Acoustic (-10°C to 45°C (dB))</td>
<td>Silent</td>
<td>Silent</td>
</tr>
<tr>
<td>Acoustic (45°C to 60°C (dB))</td>
<td>56 dBA</td>
<td>56 dBA</td>
</tr>
<tr>
<td>System power consumption (idle)**</td>
<td>8.5 W</td>
<td>8.5 W</td>
</tr>
<tr>
<td>System power consumption (full load)**</td>
<td>16 W</td>
<td>19 W</td>
</tr>
<tr>
<td>Heat dissipation (BTU)**</td>
<td>54.6</td>
<td>64.8</td>
</tr>
<tr>
<td>PoE power budget</td>
<td>NA</td>
<td>115 W</td>
</tr>
</tbody>
</table>

Performance

<table>
<thead>
<tr>
<th></th>
<th>OS6465T-12</th>
<th>OS6465T-P12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switching capacity (aggregated)</td>
<td>24 Gb/s</td>
<td>24 Gb/s</td>
</tr>
<tr>
<td>Forwarding capacity</td>
<td>17.9 Mb/s</td>
<td>17.9 Mb/s</td>
</tr>
</tbody>
</table>

Physical characteristics

<table>
<thead>
<tr>
<th></th>
<th>OS6465T-12</th>
<th>OS6465T-P12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switch width</td>
<td>21.7 cm (8.55 in.)</td>
<td>21.7 cm (8.55 in.)</td>
</tr>
<tr>
<td>Switch height</td>
<td>4.4 cm (1.73 in.)</td>
<td>4.4 cm (1.73 in.)</td>
</tr>
<tr>
<td>Switch depth</td>
<td>28 cm (11.05 in.)</td>
<td>28 cm (11.05 in.)</td>
</tr>
<tr>
<td>Weight</td>
<td>1.7 Kg (3.8 lb)</td>
<td>2.0 Kg (4.46 lb)</td>
</tr>
</tbody>
</table>

* MTBF calculations are done at ambient temperature of 25°C
** Power consumption measured at the 120 V AC outlet. Full load measurement does not include PoE power consumption. Heat dissipation: 1 watt = 3.41214 BTU/h

Product specifications and measurements

Per-port LEDs
- Non-PoE ports - green: Link/activity
- PoE ports - amber: Link/activity

System LEDs
- OK: Green/amber operational status of the switch
- VC: Green/amber master or slave role in VC configuration. Number of blinks identify stacking unit number
- PWR: Green/amber - status for the primary power supply

Scalability numbers and speeds
- Wire rate at layer 2 and layer 3 on all ports
- Jumbo frame size: 9216 bytes (for 1 Gb/s)
- Total number of MAC addresses: 16 K
- Total number of IPv4 routes: 128
- Number of VLANs: 4000

Virtual chassis
- Maximum number of units in a VC: 4
- Remote VC connection: Using SFP-GiG-SX, SFP-GiG-LX

Compliance and certifications

Commercial safety
- IEC 62368-1
- UL 60950-1, 2nd Ed.
- UL62368-1
- UL 2043 (plenum rated)
- IEC 60950-1: all national deviations
- IEC 62368-1: all national deviations
- EN 60950-1: all deviations
- CAN/CSA-C22.2 No. 60950-1-03
- CAN/CSA-C22.2 No. 62368-1
- NOM-019 SCFI, Mexico
- AS/NZ TS-001 and 60950:2000, Australia
- UL-AR, Argentina
- AS/NZ 62368-1
- UL-GS Mark, Germany
- CE Emission
- EN50581 (RoHS Recast)
- EN 55032 (EMI & EMC requirement)
- CE marking for European countries (Class A)
- EN 55024/EN 55035 (Immunity Characteristics)
- EN 61000-3-2(Harmonic Current emissions)
- EN 61000-3-3
- EN 61000-4-2
- EN 61000-4-3
- EN 61000-4-4
- EN 61000-4-5 (Surge Immunity, Class 4)
- EN 61000-4-6
- EN 61000-4-8
- EN 61000-4-11
- IEEE802.3: Hi-pot Test (2.25 KV DC on all Ethernet Ports)

Datasheet
Alcatel-Lucent OmniSwitch 6465T
### Detailed product features

**Simplified manageability and configuration**
- Intuitive CLI in a scriptable BASH environment via console, Telnet or Secure Shell (SSH) v2 over IPv4/IPv6
- Powerful WebView Graphical Web Interface via HTTP and HTTPS over IPv4/IPv6
- Fully programmable RESTful web services interface with XML and JSON support. API enables access to CLI and individual mib objects
- Integrated with Alcatel-Lucent OmniVista® products for network management
- Integrated with Nokia 5620 SAM™ for network management
- Full configuration and reporting using SNMPv1/2/3 to facilitate third-party network management over IPv4/IPv6
- File upload using USB, TFTP, FTP, SFTP or SCP using IPv4/IPv6
- Human-readable ASCII-based configuration files for off-line editing, bulk configuration and out-of-the-box auto-provisioning
- Non-volatile memory for start-up configuration
- Multiple microcode image support with fallback recovery
- Dynamic Host Configuration Protocol (DHCP) relay for IPv4/IPv6
- IEEE 802.1AB Link Layer Discover Protocol (LLDP) with Media Endpoint Discover (MED) extensions
- Network Time Protocol (NTP)
- DHCPv4 and DHCPv6 server managed by Nokia VitalQIP® DNS/DHCP IP Address Management
- Access to the AOS console via USB Adapter with Bluetooth technology provides wireless management access, eliminating the need of console cables

### Cloud ready with OmniVista Cirrus
- OmniVista Cirrus offers a secure, resilient and scalable cloud-based network management. It offers hassle free network deployment and easy service roll-out with advanced analytics for smarter decision making. It provides IT friendly Unified Access with secure authentication and policy enforcement for users and devices.

### Monitoring and troubleshooting
- Local (on the flash) and remote server logging (Syslog): Event and command logging
- IP tools: Ping and trace route
- Dying Gasp support via SNMP and syslog messages
- Loopback IP address support for management per service
- Policy- and port-based mirroring
- Remote port mirroring
- sFlow v5 and Remote Monitoring (RMON)
- Unidirectional Link Detection (UDLD), Digital Diagnostic Monitoring (DDM)

### Resiliency and high availability
- Unified management, control and virtual chassis technology
- Virtual chassis 1+N redundant supervisor manager
- Smart continuous switching technology
- ITU-T G.8032/Y1344 2010: Ethernet Ring Protection
- IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) encompasses IEEE 802.1D Spanning Tree Protocol (STP) and IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
- Per-VLAN spanning tree (PVST+) and 1x1 STP mode
- IEEE 802.3ad/802.1AX Link Aggregation Control Protocol (LACP) and static LAG groups across modules
- Dual-home link support for sub-second link protection without STP
- Virtual Router Redundancy Protocol (VRRP) with tracking capabilities
- IEEE protocol auto-discovery
- Built-in CPU protection against malicious attacks
- Split Virtual Chassis protection: Auto-detection and recovery of Virtual Chassis splitting due to one or more VVL or stack element failures

### Advanced security

#### Switch software security
- AOS secured diversified code solution is available on OmniSwitch 6465T, hardening it at both the software source code and binary executable levels to enhance overall network security.
- AOS secured diversified code protects networks from intrinsic vulnerabilities, code exploits, embedded malware, and potential back doors that could compromise mission critical operations.
- AOS secured diversified code is a proactive, defense approach toward network security that continuously defines and implements value-add capabilities to address both current and future threats.

#### Access control
- Alcatel-Lucent Access Guardian framework for comprehensive user-policy-based NAC
- Autosensing IEEE 802.1X multi-client, multi-VLAN support
- MAC-based authentication for non-IEEE 802.1X hosts
- User based authentication (captive portal): a customizable web portal residing on the switch
- User Network Profile (uNP) simplifies NAC by dynamically providing pre-defined policy configuration to authenticated clients — VLAN, ACL, BW
- Secure Shell (SSH) with public key infrastructure (PKI) support
- Terminal Access Controller Access-Control System Plus (TACACS+) client
- Centralized Remote Access Dial-In User Service (RADIUS) and Lightweight Directory Access Protocol (LDAP) administrator authentication
- Centralized RADIUS for device authentication and network access control authorization
- Learned Port Security (LPS) or MAC address lockdown
- Access Control Lists (ACLs); flow-based filtering in hardware (Layer 1 to Layer 4)
- DHCP Snooping, DHCP IP and Address Resolution Protocol (ARP) spoof protection

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*Future support*
Datasheet
Alcatel-Lucent OmniSwitch 6465T

QoS
- Priority queues: Eight hardware-based queues per port for flexible QoS management
- Traffic prioritization: Flow-based QoS for traffic policing and bandwidth management
- 32-bit IPv4/128-bit IPv6 non-contiguous mask classification
- Egress traffic shaping
- DiffServ architecture
- Congestion avoidance: Support for end-to-end head-of-line (E2E-HOL) blocking prevention, IEEE 802.1Qbb Priority-based Flow Control (PFC) and IEEE 802.3x Flow Control (FC)
- Auto-QoS support for Generic Object Oriented Substation Events (GOOSE) messages

Layer-3 routing and multicast
IPv4 routing
- Static routing
- VRRPv2
- DHCP relay (including generic UDP relay)
- ARP
- Policy-based routing and server load balancing
- DHCpv4 server

IPv6 routing
- Internet Control Message Protocol version 6 (ICMPv6)
- Static routing
- VRRPv3
- Neighbor Discovery Protocol (NDP)*
- Policy-based routing and server load balancing
- DHCpv6 server

IPv4/IPv6 multicast
- Internet Group Management Protocol (IGMP) v1/v2/v3 snooping
- Multicast Listener Discovery (MLD) v1/v2 snooping

Advanced Layer-2 services
- Ethernet services support using IEEE 802.1ad Provider Bridges (also known as Q-in-Q or VLAN stacking)
- Ethernet OAM (802.1ag), ITU-T Y.1731): Connectivity Fault Management (L2 ping & Link trace)
- Ethernet in first mile: Link OAM (802.3ah)
- Ethernet network-to-network interface (NNI) and user network interface (UNI)
- Service Access Point (SAP) profile identification
- Service VLAN (SVLAN) and customer VLAN (CVLAN) support
- VLAN translation and mapping including CVLAN to SVLAN
- Port mapping
- DHCP Option 82: Configurable relay agent information
- Multiple VLAN Registration Protocol (MVRP)
- HA-VLAN for Layer 2 clusters such as MS-NLB and active-active firewall clusters*
- Customer Provider Edge (CPE) test head traffic generator and analyzer tool
- TR-101 Point-to-Point Protocol over Ethernet (PPPoE) Intermediate Agent allowing for the PPPoE network access method
- Service Assurance Agent (SAA) for proactively measuring network health, reliability and performance.
- Jumbo frame support
- Bridge Protocol Data Unit (BPDU) blocking
- STP Root Guard

Supported standards
IEEE standards
- IEEE 802.1D STP
- IEEE 802.1p CoS
- IEEE 802.1Q VLANs
- IEEE 802.1ab (LLDP)
- IEEE 802.1aq (Q-in-Q)
- IEEE 802.1ad Provider Bridges Q-in-Q VLAN stacking
- IEEE 802.1ak (Multiple VLAN Registration Protocol (MVRP))
- IEEE 802.1s MSTP
- IEEE 802.1q 10Base-T
- IEEE 802.1w RSTP
- IEEE 802.3x Flow Control
- IEEE 802.3z Gigabit Ethernet
- IEEE 802.3ab 100Base-T
- IEEE 802.3ac VLAN Tagging
- IEEE 802.3ad/802.1AX Link Aggregation
- IEEE 802.3af Power over Ethernet
- IEEE 802.3at PoE Plus
- IEEE 802.1ae MAC Security
- IEEE 1588-2008 (PTP)

ITU-T recommendations
- ITU-T G.8032/Y.1344 2010: Ethernet Ring Protection (ERPv2)

IETF RFCs
IPv4
- RFC 2131 Dynamic HostConfiguration Protocol (DHCPv4)
- RFC 4022/2452 MIB for IPv4 TCP
- RFC 4113/2454 MIB for IPv4 UDP
- RFC 4292/4293 IPv4 MBs

RIP
- RFC 1058 RIP v1
- RFC 1722/1723/2453/1724 RIP v2 and MIB
- RFC 1812/2644 IPv4 Router Requirements
- RFC 2080 RIPng for IPv6

IPv Multicast
- RFC 2365 Multicast
- RFC 2710/3019/3810/MDL v2 for IPv6
- RFC 2933 IGMP MIB
- RFC 3376 IGMPv3 (includes IGMP v2/v1)
- RFC 4541 Considerations for IGMP and MLD Snooping Switches
- RFC 5132 Multicast Routing MIB

IPv6
- RFC 1981 Path MTU Discovery
- RFC 2460 IPv6 Specification
- RFC 2464 IPv6 over Ethernet
- RFC 2465 MIB for IPv6: Textual Conventions (TC) and General Group
- RFC 2466 MIB for IPv6: ICMPv6 Group
- RFC 3484 Default Address Selection
- RFC 3493/2553 Basic Socket API
- RFC 3542/2292 Advanced Sockets API
- RFC 3587/2374 Global Unicast Address Format
- RFC 3595 TC for IPv6 Flow Label
- RFC 3596/1886 DNS for IPv6
- RFC 4007 Scoped Address
- RFC 4022/2452 MIB for IPv6 TCP

*Future support
• RFC 4113/2454 MIB for IPv6 UDP
• RFC 4193 Unique Local Addresses
• RFC 4213/2893 Transition Mechanisms
• RFC 4291/3513/2373 Addressing Architecture (uni/any/multicast)
• RFC 4292/4293 IPv6 MIBs
• RFC 4443/2463 ICMPv6
• RFC 4861/2461 Neighbor Discovery
• RFC 4862/2462 Stateless Address Autoconfiguration*
• RFC 5095 Deprecation of Type 0 Routing Headers in IPv6*

**Manageability**
• RFC 854/855 Telnet and Telnet options
• RFC 959/2640 FTP
• RFC 1155/2578-2580 SMI v1 and SMI v2
• RFC 1157/2271 SNMP
• RFC 1211/2737 MIB and MIB-II
• RFC 1213/2011-2013 SNMP v2 MIB
• RFC 1215 Convention for SNMP Traps
• RFC 1573/2233/2863 Private Interface MIB
• RFC 1643/2665 Ethernet MIB
• RFC 1867 Form-based File Upload in HTML
• RFC 1901-1908/3416-3418 SNMP v2c
• RFC 2096 IP MIB
• RFC 2131 DHCP Server/Client
• RFC 2388 Returning Values from Forms: multipart/form-data
• RFC 2396 Uniform Resource Identifiers (URI): Generic Syntax
• RFC 2570-2576/3410-3415/3584 SNMP v3
• RFC 2616/2854 HTTP and HTML
• RFC 2668/3636 IEEE 802.3 MAU MIB
• RFC 2674 VLAN MIB
• RFC 3023 XML Media Types
• RFC 3414 User-based Security Model
• RFC 3826 (AES) Cipher Algorithm in the SNMP User-based Security Model
• RFC 4122 A Universally Unique IDentifier (UUID) URN Namespace
• RFC 4234 Augmented BNF for Syntax Specifications: ABNF
• RFC 4251 Secure Shell Protocol Architecture
• RFC 4252 The Secure Shell (SSH) Authentication Protocol
• RFC 4627 JavaScript Object Notation (JSON)
• RFC 6585 Additional HTTP Status Codes

**Security**
• RFC 1321 MD5
• RFC 1826/1827/4303/4305 Encapsulating Payload (ESP) and crypto algorithms
• RFC 2104 HMAC Message Authentication
• RFC 2138/2865/2868/3575/2618 RADIUS Authentication and Client MIB
• RFC 2139/2866/2867/2620 RADIUS Accounting and Client MIB
• RFC 2228 FTP Security Extensions
• RFC 2284 PPP EAP
• RFC 2869/2869bis RADIUS Extension
• RFC 4301 Security Architecture for IP

**Others**
• RFC 791/894/1024/1349 IP and IP/Ethernet
• RFC 792 ICMP
• RFC 768 UDP
• RFC 793/1156 TCP/IP and MIB
• RFC 826 ARP
• RFC 919/922 Broadcasting Internet Datagram
• RFC 925/1027 Multi-LAN ARP/Proxy ARP
• RFC 2681
• RFC 950 Subnetting
• RFC 951 BOOTP
• RFC 1151 RDP
• RFC 1191 Path MTU Discovery
• RFC 1256 ICMP Router Discovery
• RFC 1305/2030 NTP v3 and Simple NTP
• RFC 1493 Bridge MIB
• RFC 1518/1519 CIDR
• RFC 1541/1542/2131/3396/3442 DHCP
• RFC 1757/2819 RMON and MIB
• RFC 2131/3046 DHCP/BootP Relay
• RFC 2132 DHCP Options
• RFC 2251 LDAP v3
• RFC 2338/3768/2787 VRRP and MIB
• RFC 2373/3168/3246 DiffServ
• RFC 2697 srTCM
• RFC 2698 trTCM
• RFC 3635 Pause Control

**QoS**
• RFC 896 Congestion Control
• RFC 1122 Internet Hosts
• RFC 2474/2475/2597/3168/3246 DiffServ
• RFC 2697 srTCM
• RFC 2698 trTCM
• RFC 3635 Pause Control
## Ordering information

<table>
<thead>
<tr>
<th>Part number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OmniSwitch 6465T models</strong></td>
<td></td>
</tr>
<tr>
<td>OS6465T-12</td>
<td>OS6465T-12: Gigabit Ethernet chassis. 8 RJ45 10/100/1000 BaseT, 2 SFP/RJ45 combo, 2 SFP ports. 1RU by 1/2 rack width, internal AC PSU. Operating temp -10° C to 60° C. Includes power cord, manuals/software access cards, RJ45 to DB9 adaptor.</td>
</tr>
<tr>
<td>OS6465T-P12</td>
<td>OS6465T-P12: Gigabit Ethernet chassis. 8 RJ45 10/100/1000 BaseT PoE+, 2 SFP/RJ45 combo, 2 SFP ports. 1RU by 1/2 rack width, internal AC PSU. Operating temp -10° C to 60° C. Includes power cord, manuals/software access cards, RJ45 to DB9 adaptor.</td>
</tr>
<tr>
<td><strong>OmniSwitch 6465T licenses</strong></td>
<td></td>
</tr>
<tr>
<td>OS-SW-MACSEC</td>
<td>Site license to enable MACsec on applicable OS6465, OS6560, OS6860, OS6865, OS6900, OS9900 models. One license per customer at no cost</td>
</tr>
<tr>
<td><strong>OmniSwitch 6465T Accessories</strong></td>
<td></td>
</tr>
<tr>
<td>OS6465T-CBL-60</td>
<td>60 centimeters long SFP+ direct stacking cable for OS6465T models</td>
</tr>
<tr>
<td>OS6465T-CBL-1M</td>
<td>1-meter long SFP+ direct stacking cable for OS6465T models</td>
</tr>
<tr>
<td>OS6465T-CBL-3M</td>
<td>3-meter long SFP+ direct stacking cable for OS6465T models</td>
</tr>
<tr>
<td><strong>Gigabit transceivers</strong></td>
<td></td>
</tr>
<tr>
<td>SFP-GIG-LH70</td>
<td>1000Base-LH transceiver with an LC interface for single mode fiber over 1550 nm wavelength. Typical reach of 70 km.</td>
</tr>
<tr>
<td>SFP-GIG-LH40</td>
<td>1000Base-LH transceiver with an LC interface for single mode fiber over 1310 nm wavelength. Typical reach of 40 km.</td>
</tr>
<tr>
<td>SFP-GIG-LX</td>
<td>1000Base-LX transceiver with an LC interface for single mode fiber over 1310 nm wavelength. Typical reach of 10 km.</td>
</tr>
<tr>
<td>SFP-GIG-SX</td>
<td>1000Base-SX transceiver with an LC interface for multimode fiber over 850 nm wavelength. Typical reach of 300 m.</td>
</tr>
<tr>
<td>SFP-GIG-EXTND</td>
<td>1000Base-SX transceiver with an LC interface for single mode fiber over 850 nm wavelength. Typical reach of 2 km.</td>
</tr>
<tr>
<td>SFP-GIG-T</td>
<td>1000Base-T Gigabit ethernet transceiver Supports category 5, 5E, and 6 copper cabling up to 100m.</td>
</tr>
<tr>
<td>SFP-DUAL-MM-N</td>
<td>Dual Speed 100Base-FX or 1000Base-X Ethernet optical transceiver SFP MSA). Supports multimode fiber over 1310nm wavelength nominal) with an LC connector. Typical reach of 550 m at Gigabit speed and 2 km at 100 Mb/s speed.</td>
</tr>
<tr>
<td>SFP-DUAL-BX-D</td>
<td>Dual Speed 100Base-BXD or 1000Base-BXD SFP transceiver with an LC type connector. This bidirectional transceiver is designed for use over single mode fiber optic on a single strand link up to 10 km. Transmits 1550 nm and receives 1310 nm optical signal.</td>
</tr>
<tr>
<td>SFP-DUAL-BX-U</td>
<td>Dual Speed 100Base-BXU or 1000Base-BXU SFP transceiver with an LC type connector. This bidirectional transceiver is designed for use over single mode fiber optic on a single strand link up to 10 km. Transmits 1310 nm and receives 1550 nm optical signal.</td>
</tr>
<tr>
<td><strong>100 Megabit transceivers</strong></td>
<td></td>
</tr>
<tr>
<td>SFP-100-LC-MM</td>
<td>100Base-FX SFP transceiver with an LC type interface. This transceiver is designed for use over multimode fiber optic cable.</td>
</tr>
<tr>
<td>SFP-100-LC-SM15</td>
<td>100Base-FX SFP transceiver with an LC type interface. This transceiver is designed for use over single mode fiber optic cable up to 15 km.</td>
</tr>
<tr>
<td>SFP-100-LC-SM40</td>
<td>100Base-FX SFP transceiver with an LC type interface. This transceiver is designed for use over single mode fiber optic cable up to 40 km.</td>
</tr>
<tr>
<td>SFP-100-BXLC-D</td>
<td>100Base-BX SFP transceiver with an LC type interface. Designed for use over single mode fiber optic on a single strand link up to 20KM point-to-point. This transceiver is normally used in the central office (OLT) Tx-1550 nm and Rx-1310 nm optical signal</td>
</tr>
<tr>
<td>SFP-100-BXLC-U</td>
<td>100Base-BX SFP transceiver with an LC type interface. Designed for use over single mode fiber optic on a single strand link up to 20 km point-to-point. This transceiver is normally used in the client (ONU) Tx-1310 nm and Rx-1550 nm optical signal</td>
</tr>
</tbody>
</table>

### Warranty

The OmniSwitch 6465T family comes with a Limited Lifetime Hardware Warranty.

### Services and support

For more information about our Professional Services, Support Services, and Managed Services, please go to [https://www.al-enterprise.com/en/services](https://www.al-enterprise.com/en/services)

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