Alcatel-Lucent OmniSwitch 6465T

Extended Temperature Ethernet Switches

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-12

OmniSwitch 6465T-P12

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

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.

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

Technical specifications

Product matrix	OS6465T-12	OS6465T-P12
File system flash	1 GB	1 GB
RAM	1 GB	1 GB
Fans*	2	2
USB Port	1 (type A, USB 2.0)	1 (type A, USB 2.0)
Console	1 (RS232 RJ45)	1 (RS232 RJ45)
IEEE 1588v2 capable ports	12	12
MACsec capable ports	12	12
Operating conditions		
Operating temperature	-10°C to 60°C (14°F to 140°F)	-10°C to 60°C (14°F to 140°F)
Storage temperature	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)

* 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	OS6465T-12	OS6465T-P12
Humidity (operating & storage)	5% to 95% non-condensing	5% to 95% non-condensing
Altitude	13,000 ft	13,000 ft
MTBF (Hours)*	1,953,053	1,298,328
Power Supply efficiency	85%	85%
Acoustic (-10°C to 45°C) (dB)	Silent	Silent
Acoustic (45°C to 60°C) (dB)	56 dBA	56 dBA
System power consumption (idle)**	8.5 W	8.5 W
System power consumption (full load)**	16 W	19 W
Heat dissipation (BTU)**	54.6	64.8
PoE power budget	NA	115 W
Performance		
Switching capacity (aggregated)	24 Gb/s	24 Gb/s
Forwarding capacity	17.9 Mb/s	17.9 Mb/s
Physical characteristics		
Switch width	21.7 cm (8.55 in.)	21.7 cm (8.55 in.)
Switch height	4.4 cm (1.73 in.)	4.4 cm (1.73 in.)
Switch depth	28 cm (11.05 in.)	28 cm (11.05 in.)
Weight	1.7 Kg (3.8 lb)	2.0 Kg (4.46 lb)

* 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

- 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
- CU, EAC, Russia
- ANATEL, Brazil
- CCC, China
- KCC Korea
- BSMI, Taiwan
- EN 60825-1 Laser
- C Mark, Morocco
- EN 60825-2 Laser
- CDRH Laser
- RoHS and WEEE directives compliant
- REACH directive

Commercial EMI/EMC

- 47 CRF FCC Part 15: 2015 Subpart B (Class A)VCCI (Class A, with UTP Cables)
- ICES-003:2012 Issue 5, Class A
- AS/NZS 3548 (Class A) – C-Tick
- CE marking for European countries (Class A)
- CE Emission
  - ¬ EN50581 (RoHS Recast)
  - ¬ EN 55032 (EMI & EMC requirement)
  - ¬ 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)

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 VFL 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
- Web 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

*Future support

- ARP poisoning detection
- IP Source Filtering as a protective and effective mechanism against ARP attacks
- LLDP Security mechanism for rogue device detection and restriction

QoS

- Priority queues: Eight hardware-based queues per port for flexible QoS management
- Traffic prioritization: Flow-based QoS Flow-based 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
- Virtual Router Redundancy Protocol (VRRPv2)
- DHCP relay (including generic UDP relay)
- Address Resolution Protocol (ARP)
- Policy-based routing and server load balancing
- DHCPv4 server

IPv6 routing

- Internet Control Message Protocol version 6 (ICMPv6)
- Static routing
- Virtual Router Redundancy Protocol version 3 (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 802.1ag (OAM)
- IEEE 802.3ah (OAM)
- IEEE 802.1ad Provider Bridges Q-in-Q/ VLAN stacking
- IEEE 802.1ak (Multiple VLAN Registration Protocol (MVRP)
- IEEE 802.1s MSTP
- IEEE 802.3i 10Base-T
- IEEE 802.1w RSTP
- IEEE 802.3x Flow Control
- IEEE 802.3z Gigabit Ethernet
- IEEE 802.3ab 1000Base-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 MIBs

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

IP Multicast

- RFC 2365 Multicast
- RFC 2710/3019/3810/MLD 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 1350 TFTP Protocol
- RFC 1155/2578-2580 SMI v1 and SMI v2
- RFC 1157/2271 SNMP
- RFC 1212/2737 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

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

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 3021 Using 31-bit Prefixes
- RFC 3060 Policy Core
- RFC 3176 sFlow
- RFC 4562 MAC-Forced Forwarding

Ordering information

Part number	Description
OmniSwitch 6465T models	
OS6465T-12	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
OS6465T-P12	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.
OmniSwitch 6465T licenses	
OS-SW-MACSEC	Site license to enable MACsec on applicable OS6465, OS6560, OS6860, OS6865, OS6900, OS9900 models. One license per customer at no cost
OmniSwitch 6465T Accessories	
OS6465T-CBL-60	60 centimeters long SFP+ direct stacking cable for OS6465T models
OS6465T-CBL-1M	1-meter long SFP+ direct stacking cable for OS6465T models
OS6465T-CBL-3M	3-meter long SFP+ direct stacking cable for OS6465T models
Gigabit transceivers	
SFP-GIG-LH70	1000Base-LH transceiver with an LC interface for single mode fiber over 1550 nm wavelength. Typical reach of 70 km.
SFP-GIG-LH40	1000Base-LH transceiver with an LC interface for single mode fiber over 1310 nm wavelength. Typical reach of 40 km.
SFP-GIG-LX	1000Base-LX transceiver with an LC interface for single mode fiber over 1310 nm wavelength. Typical reach of 10 km.
SFP-GIG-SX	1000Base-SX transceiver with an LC interface for multimode fiber over 850 nm wavelength. Typical reach of 300 m.
SFP-GIG-EXTND	1000Base-SX transceiver with an LC interface for single mode fiber over 850 nm wavelength. Typical reach of 2 km.
SFP-GIG-T	1000Base-T Gigabit ethernet transceiver Supports category 5, 5E, and 6 copper cabling up to 100m.
SFP-DUAL-MM-N	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.
SFP-DUAL-BX-D	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.
SFP-DUAL-BX-U	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.
100 Megabit transceivers	
SFP-100-LC-MM	100Base-FX SFP transceiver with an LC type interface. This transceiver is designed for use over multimode fiber optic cable.
SFP-100-LC-SM15	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.
SFP-100-LC-SM40	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.
SFP-100-BXLC-D	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
SFP-100-BXLC-U	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

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

Please visit our website to learn more: https://www.al-enterprise.com/en/products/switches/

Alcatel·Lucent Enterprise