



Alcatel-Lucent Ruggedized Ethernet Switches

OmniSwitch 6465 and OmniSwitch 6865: Hardened for Industrial Ethernet Applications

The Alcatel-Lucent Enterprise family of ruggedized Ethernet switches brings industrial-grade, highly secure, intelligent and superior performance to mission-critical applications running in harsh environments and extreme temperatures.



The latest generation of hardened Ethernet switches from Alcatel-Lucent offers a wide variety of ruggedized switches including advanced Layer 3 switches with VPN capabilities such as the [Alcatel-Lucent OmniSwitch® 6865 Hardened Ethernet Switch](#), Layer 2+ DIN mountable [Alcatel-Lucent OmniSwitch 6465 Compact Hardened Ethernet Switch](#) and the cost efficient, extended temperature [Alcatel-Lucent OmniSwitch 6465T Extended Temperature Ethernet Switch](#). These switches are designed to deliver high-performance for deployment in intelligent transportation, traffic control systems, power and other utilities, smart cities, video surveillance and other tough outdoor installations to name a few.

All switches support IEEE 1588v2 PTP for the nanosecond-level precision timing required for industrial devices and applications and offer up to 75W of IEEE 802.3bt compliant POE as well as Perpetual PoE/Fast PoE to power new technology devices such as PTZ cameras, digital signage, as well as wireless access points, card readers, sensors and more. They also support Ethernet Ring Protocol (ERP) V2 and Media Redundancy Protocol (MRP) to ensure low convergence times.

The switches run on the widely deployed and field proven Alcatel-Lucent Operating system (AOS) that offers reliability, performance, easy management, and advanced system and network level resiliency features. These ruggedized switches are easy to deploy and offer out-of-the-box plug-and-play, zero-touch provisioning, network automation and disaster recovery options. Simplified installation and service provisioning ensures fast, scalable and cost-efficient implementation. All switches offer virtual chassis technology to combine multiple same family switches in a single entity for unified management and control. All switches can be fully managed from the [Alcatel-Lucent OmniVista®2500 Network Management System](#), and the Nokia® NFM-P, and are cloud-ready with [Alcatel-Lucent OmniVista Cirrus Network Management as a Service](#) which offers a secure, resilient and scalable cloud-based network management.

OmniSwitch 6465 Compact Hardened Ethernet Switches

The OmniSwitch 6465 (OS6465) is a family of ruggedized, fully manageable, fan-less Gigabit Ethernet switches designed for industrial Ethernet applications. They are available in DIN rail and 19" rack mountable versions.

The OS6465 can operate in extreme temperatures of -40°C to +75°C. It offers a range of fully redundant power input options and alarm relay connectors for industrial deployments.

The OS6465 family offers IEEE 802.3bt type 3 compliant PoE. It offers high surge protection of level 4 on the power side, and 6KV on the data side. It also offers line rate encryption on all ports through MACsec, to enable end-to-end encrypted networks. OS6465 switches are certified for Marine (DNV & IEC 60945), Railway (track-side and rolling stock), power substations, and intelligent transportation among other industrial compliances, and are also offered in TAA certified versions. It also supports the industrial protocol PROFINET.



OS6465-P6



OS6465-P12



OS6465-P28



OmniSwitch 6465T Extended Temperature Ethernet Switches

The OmniSwitch 6465T (OS6465T) are extended temperature, gigabit Ethernet switches in half-rack (19») form-factor and come in PoE and non-PoE configurations. The versatile OS6465T models can be deployed in a variety of environments including residential and business metro Ethernet access, in smart cities and buildings, and railways.

The OS6465T are plenum-rated, and the PoE version can provide efficient power for smart building subsystems such as lighting, CCTV and HVAC. The OS6465T is designed to operate in extreme temperature conditions ensuring reliable operation in -10°C to +60°C.

The OS6465T is optimized for size and offers low-power consumption and a rich software feature set. These switches can be mounted in 19" rack, wall and plenum mount configurations.

OS6465T supports line rate data encryption on all ports through MACsec ensuring communication safety and integrity.

The OS6465T is certified for plenum and MEF 3.0.

OmniSwitch 6865 Hardened Ethernet Switches

The OmniSwitch 6865 (OS6865) Hardened Ethernet Switches are a series of advanced Layer 3 switches that offer fast, cost-efficient roll-out of VPN services on the edge using [Shortest Path Bridging](#) (SPB-M). These switches are easy to deploy as they leverage the Alcatel-Lucent intelligent-Fabric technology which offers out-of-the-box plug-and-play, zero-touch provisioning and network automation.

The switches can be mounted on wall/panel, DIN rail or in a 19-inch rack. All the models have built-in 10 Gigabit SFP+ ports and hot-swappable, fully redundant, load sharing power supplies. OS6865 switches offer IEEE 802.3bt type 4 compliant POE. They offer high surge protection of level 4 on the power side and 6KV surge protection on the data side. The OS6865 family is certified for deployments in military (MIL), marine (DNV & IEC 60945), electrical substation, railway (track-side and rolling stock) among other industrial environments and are also offered in TAA certified versions.



OS6465T-12



OS6465T-P12



OS6865-U12X



OS6865-P16X



OS6865-U28X

Features	Benefits	OmniSwitch 6465	OmniSwitch 6465T	OmniSwitch 6865
Ruggedized hardware design for industrial applications	Operates at a temperature range from -40°C to +75°C, withstands greater shock, vibrations, surge and EMI/EMC variance	✓	Operates at -10°C to +60°C	✓
Convection cooled fan-less models	Fan-less operations increases resiliency and maximizes uptime for converged mission-critical networks	✓	Fans stay OFF -10°C to +45°C	✓
Advanced Industrial IEEE 802.3 BT compliant PoE capabilities on all models	Ideal for all types of PoE application requirements from outdoor wireless APs, to PTZ surveillance cameras and video displays	✓		✓
Non-stop PoE and Instant PoE	Ideal for PoE powered lighting, IP cameras etc. Non-stop PoE continues to provide power to PD even when the switch is rebooted (soft boot). Instant PoE provides power to PDs in a matter of seconds when a switch is powered up even before AOS comes up	✓	✓	✓
Industrial Certifications	Certified to operate in industrial environments including Railway, Road Transportation, Marine, Electric utilities etc.	✓		✓
Industrial protocols (PROFINET)	Addresses the evolving needs of industrial and critical infrastructure sectors, including: smart manufacturing, automated railway systems, intelligent energy networks, urban mobility and public service systems	✓		
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	✓	✓	✓
Hot-swappable, fully redundant power supplies	Field upgradable, high 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	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	✓	✓	✓
MACSec Support	MACSec encryption support provides a secure network access ensuring data confidentiality and integrity	✓	✓	
SPB-M support for scalable network virtualization architecture over standard Ethernet fabric	- Optimizes/simplifies Layer 2 and Layer 3 network designs and reduces administration overhead - SPB Pseudo-wire P2P - ERP-SPB interworking			✓
Auto-fabric technology to simplify installation and service provisioning	- Enables zero-touch provisioning and network automation with automatic and topology discovery - Prevent human mistakes by automating standardized and replicate configurations			✓
SDN ready - OpenFlow and OpenStack support - Supports RESTful APIs commands MIBs - Embedded scripting capabilities	- The support of SDN allows creation of specialized services which ensures that your investment is ready for the future and enables interoperability with third-party solutions - REST APIs provides access to all AOS CLI with advanced scripting capabilities using Python and Bash. It enables fast deployment of new network services and the ability to continuously adopt new applications to support the business			✓