LANCOM GS-3652XUP

Multi-Gigabit PoE++ access switch with power redundancy

For scenarios with data-intensive network components that need to get by without complex electrical installations, this 52-port multi-Gigabit access switch with the latest IEEE 802.3bt Power over Ethernet standard is a perfect choice. 12 of a total of 48 Gigabit Ethernet ports support 2.5 Gigabit Ethernet and thus form the necessary high-performance basis, e.g. for the operation of Wi-Fi 6E access points and other network components with high-performance requirements. With an additional hot-swappable power supply, either full PoE performance is achieved on all 48 Gigabit Ethernet ports or maximum fail-safety is created. Four additional SFP+ ports and basic Layer 3 functions such as static routing and DHCP server make this device a reliable basis for large networks.

→ Multi-Gigabit access switch with 12x 2.5 Gigabit Ethernet, 36x Gigabit Ethernet ports and 4x SFP+
→ 1x hot-swappable PSU integrated, second PSU optional
→ PoE support as per IEEE 802.3af/at (1G ports) and IEEE 802.3bt Type 4 (2.5G ports) with up to 720 watts (1,440 watts with second PSU)
→ Ideal in combination with Wi-Fi 6E access points
→ IEEE 802.3az power saving feature - port shutdown when not transferring data
→ Basic Layer 3 features such as static routing and DHCP server
→ Security through configurable access control on all ports according to IEEE 802.1X
→ Secure remote management through TACACS+, SSH, SSL, and SNMPv3
→ Cloud-managed LAN – for simple and fast configuration via the LANCOM Management Cloud
→ IPv6 and IPv4 support for modern enterprise networks
→ 5-year replacement service for all components

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High performance on 52 ports

The LANCOM GS-3652XUP is equipped with 12 2.5 Gigabit Ethernet ports, 36 Gigabit Ethernet ports, and 4 SFP+ ports supporting transfer rates of up to 10 Gbps. In addition, with a data throughput of 212 Gbps on the backplane, it offers full performance even under heavy load. The access switch thus forms the powerful basis for large network infrastructures in all industries and areas of application.

Central power supply without additional electrical installation

As a high-performance PoE switch, the LANCOM GS-3652XUP supplies connected PoE end devices without additional power supplies or power cabling. It supports the Power over Ethernet standards IEEE 802.3at/af (PoE+) and IEEE 802.3bt (PoE++, Type 4) with up to 90 W per port. Thanks to high power reserves with a total output of 1,440 watts, it is thus ideal for efficient power supply of end devices with the highest energy requirements. In addition to Wi-Fi 6E access points, this also includes end devices such as lighting tubes or touch screens, which can be operated via Power over Ethernet for the first time.

A high-performance basis for Wi-Fi 6E

Thanks to 12 powerful 2.5 Gigabit Ethernet ports including PoE in accordance with IEEE 802.3bt (PoE++), the LANCOM GS-3652XUP is the ideal basis for integrating the new WLAN standard Wi-Fi 6E into modern infrastructures. This is because Wi-Fi 6E access points such as the new LANCOM LX-6500 with 4 streams and 3 bands each mean on the one hand increased performance requirements that exceed simple Gigabit Ethernet, and on the other hand, the power consumption of these access points exceeds the threshold of classic PoE+ with 30 W for the first time.

Hot-swappable PSU

The LANCOM GS-3652XUP with "hot-swappable" PSU enables fast and uninterrupted replacement of the power supply in the event of a defect. A separate plug-in module allows the addition of a second PSU. With the integration of 2 redundant PSUs, highly fail-safe scenarios can be realized or PoE power can be bundled and thus increased.

Front-to-back design

The LANCOM GS-3652XUP protects your investment with an innovative front-to-back ventilation design. This allows for optimal cooling even in 19" racks and maximizes the lifespan of the device.

Static routing for unburdened networks

The LANCOM GS-3652XUP supports the basic Layer 3 function static routing, shifting certain routing tasks from the router to the switch. The predefinition of network routes through one or more network segments enables faster data exchange, especially in the case of high internal data traffic, and leads to a relief of the router. Freed-up router capacity is then additionally available for handling external data traffic. This increases the efficiency of the entire network.

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DHCP server functionality

As a DHCP server, the switch can independently and automatically assign IP addresses to clients. The LANCOM GS-3652XUP supports this basic Layer 3 function and thus takes over the IP management of the connected network.

Configurable access control

The LANCOM GS-3652XUP ensures that no unauthorized clients gain access to the network. This is made possible by secure access control on all ports in accordance with IEEE 802.1X (port-based, single-, multi-, and MAC-based).

Secure remote management

Thanks to secure communication protocols such as SSH, SSL, and SNMPv3, the LANCOM GS-3652XUP enables professional remote management of the network. In addition, the switch supports the TACACS+ protocol for authentication, authorization, and accounting. An optimal solution that promises maximum security, especially for the management and monitoring of multi-site networks.

Cloud-managed LAN

With the LANCOM Management Cloud, the LANCOM GS-3652XUP offers fast and easy network integration and automatic configuration assignment. Cloud-managed LAN replaces individual device configuration with holistic network orchestration and enables automatic VLAN assignment to the desired switch ports. This allows all configurations to be rolled out at the click of a mouse, making even more complex networking scenarios easy to administer.

IPv6 and IPv4 support

Thanks to its dual-stack implementation, the LANCOM GS-3652XUP can be used in pure IPv4, pure IPv6, or mixed networks. Numerous applications such as SSL, SSH, Telnet, or TFTP can thus also be run over IPv6 networks. IPv6 features such as stateless autoconfiguration, neighbor device discovery, and MLD snooping round out the IPv6 features.

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Security

Secure Shell Protocol (SSH)	SSH for a secure remote configuration
Secure Sockets Layer (SSL)	SSL to encrypt HTTP connections; advanced security for browser-based configuration via web interface
IEEE 802.1X	IEEE 802.1X access control on all ports; RADIUS for authentication, authorization and accounting with e.g. MD5 hashing; guest VLAN; dynamic VLAN assignment
Private VLAN edge	Layer 2 isolation between clients in the same VLAN ("protected ports"); support multiple uplinks
Port security	Locking of MAC addresses to ports; limiting of the number of learned MAC addresses
IP source guard	Blocking access for illegal IP addresses on specific ports
Access control lists	Drop or rate limitation of connections based on source and destination MAC addresses, VLAN ID, IP address (IPv4/IPv6), protocol, port, DSCP/IP precedence, TCP/UDP source and destination ports, IEEE 802.1p priority, ICMP packets, IGMP packets, TCP flag
RADIUS/TACACS+	Authentication, authorization and accounting of configuration changes by RADIUS or TACACS+
Storm Control	Multicast/Broadcast/Unicast storm suppression
Isolated Group	Allows certain ports to be designated as protected. All other ports are non-isolated. Traffic between isolated group members is blocked. Traffic can only be sent from isolated group to non-isolated group.

Performance

Switching technology	Store and forward with latency less than 4 microseconds
MAC addresses	Support of max 32K MAC addresses
Throughput	Max. 212 Gbps on the backplane
Maximum packet processing	157 million packets per second (mpps) at 64-byte packets
VLAN	Port based and IEEE 802.1q tag based VLAN with up to 4,093 VLAN; Supports ingress and egress packet filter in port based VLAN
Jumbo frame support	Jumbo frame support with up to 10240 bytes
Packet Buffer	4 MB

PoE with IEEE 802.3bt and IEEE 802.3at/af

2.5G Ports	12x IEEE 802.3bt 2.5G PoE ports with up to 90W per port (type 4, compatible to IEEE 802.3at/af powered devices), limited by the maximum PoE power supplied
1G Ports	36x IEEE 802.3at PoE ports (compatible to IEEE 802.3af powered devices), limited by the maximum PoE power supplied
Power	720 W total power with dynamic load balancing on all ports (optional up to 1440 W with second power supply unit)

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PoE with IEEE 802.3bt and IEEE 802.3at/af

Priorisation	Supports port based priority and PoE status setting
Status information	Monitoring via LED, displaying the actual power consumption per port in web interface

Energy efficiency (Green Ethernet)

Energy detection	Energy efficiency according to IEEE 802.3az. Automatically turns off power on Gigabit Ethernet RJ-45 port when detecting link down or Idle of client. Active mode is resumed without loss of any packets when the switch detects the link up
Cable length detection	Adjusts the signal strength based on the cable length. Reduces the power consumption for short cable

Layer 3 features

Number of L3 inferfaces	up to 128
Static routing (IPv4/IPv6)	Hardware based static routing (IPv4/IPv6) with a number of 128 possible routes
DHCP Server	DHCP Server per VLAN, max. 16 pools

Layer 2 switching

Spanning Tree Protokoll (STP) / Rapid STP / Multiple STP	Standard Spanning Tree according to IEEE 802.1d with fast convergence support of IEEE 802.1w (RSTP); using Multiple Spanning Tree instances by default according to IEEE 802.1s (MSTP)
Link Aggregation Control Protocol (LACP)	Support of 26 groups containing up to 4 ports each according to IEEE 802.1ax
VLAN	Support for up to 4K VLANs simultaneously (out of 4093 VLAN Ids); matching due to port, IEEE 802.1q tagged VLANs, MAC adresses, IP subnet and Private VLAN Edge function ("protected ports")
Voice VLAN	Voice traffic is automatically assigned to a voice-specific VLAN and treated with appropriate levels of QoS
IGMP multicasts	IGMP v1, v2, v3 to limit bandwidth-intensive multicast traffic to ports with requesters; supports 1024 multicast groups; source-specific multicasting
IGMP querier	Support of multicast domains of snooping switches in the absence of a multicast router
IGMP Snooping	IGMP Snooping to identify multicast groups and prevent unnecessary traffic
IGMP proxy	IGMP proxy to pass IGMP messages through
MLD v1/v2	Multicast Listener Discovery - IPv6 multicast packets are transmitted to interested listeners only
Generic VLAN registration	VLAN registration with GVRP according to IEEE 802.1q for automatic delivery of VLANs in bridged domains
DHCP Relay Agent	Relay of DHCP broadcast request to different LANs

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Layer 2 switching

Supported DHCP options	→ DHCP option 66 → DHCP option 67 → DHCP option 82

Interfaces

Ethernet	→ 12 TP ports 100/1000/2500 Mbps → 36 TP ports 10/100/1000 Mbps → 4 SFP+ ports 1/10 Gbps → 52 concurrent Ethernet ports in total
Console port	RJ45 configuration port for command line access

Management and monitoring

Management	LANconfig, WEBconfig, LANCOM Management Cloud, Industry Standard CLI
Command Line Interface (CLI)	Configuration and status display from the command line with console application and direct connection to console port, via Telnet or SSH
Monitoring	LANmonitor, LANCOM Management Cloud
Remote Monitoring	Integrated RMON software agent supports 4 RMON groups (history, statistics, alarms and events) for enhanced traffic management, monitoring and analysis
Port Mirroring	Traffic can be mirrored from on port to another for investigation with network analyzer or RMON probe. Up to 51 ports can be mirrored to a single mirror port. Single sessions can be selected
Security	Access rights (read/write) can be set up separately, access control list
SNMP	SNMP management via SNMPv1, v2c or v3 with support of traps. User-based security model for SNMPv3 (USM)
Diagnosis	Diagnosis from the switch with PING and cable diagnosis
Firmware update	→ Update via WEBconfig and browser (HTTP/HTTPS) → Update via TFTP and LANconfig → Dual firmware image to update during operation
Secure Copy	Securely import and export files
DHCP client	Automatic assignement of the management IP address by DHCP
SNTP	Automatic time settings with Simple Network Time Protocol (SNTP)
s-flow	Standard for monitoring of high-speed-networks. Visualization of network use, accounting an analysation to protect your network against dangers

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Hardware

Weight	13,89 lbs (6,3 kg)
Power supply	Two bays for swappable power supply units (100 – 240 V, 50 – 60 Hz)
Environment	Temperature range 0 – 40° C; short term temperature conditions 0 – 50°C; humidity 10 – 90%; non-condensing
Housing	Robust metal housing, 19" 1U (442 x 44 x 440 mm > W x H x D) with removable mounting brackets, network connectors on the front
Fans	2 (3 when using 2 PSUs)
Power consumption (max)	→ 920 W (when using one PSU) → 1600 W (when using two PSUs)
Power consumption (idle)	46 W
Heat power (max)	683 BTU/h
Acoustic noise (typ)	62 dBa

Software

LCOS version	based on LCOS SX 4.30
Lifecycle Management	After discontinuation (End of Sale), the device is subject to the LANCOM Lifecycle Management. Details can be found at: www.lancom-systems.com/lifecycle
Anti-backdoor policy	Products from LANCOM are free of hidden access paths (backdoors) and other undesirable features for introducing, extracting or manipulating data. The trust seal "IT Security made in Germany" (ITSMIG) and certification by the German Federal Office for Information Security (BSI) confirm the trustworthiness and the outstanding level of security

Declarations of conformity*

Europe/EFTA	CE
North America	FCC/IC
Australia / New Zealand	ACMA
*) Note	The full text of the specific Declaration of Conformity is available at the following Internet address: www.lancom-systems.com/doc

Supported IEEE standards

IEEE 802.1AB	Link Layer Discovery Protocol (LLDP)
IEEE 802.1AB	LLDP-MED
IEEE 802.1ad	Q-in-Q tagging

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Supported IEEE standards

IEEE 802.1ak	MRP and MVRP - Multiple Registration Protocol and Multiple VLAN Registration Protocol
IEEE 802.1d	MAC Bridging
IEEE 802.1d	Spanning Tree
IEEE 802.1p	Class of Service
IEEE 802.1q	VLAN
IEEE 802.1s	Multiple Spanning Tree Protocol (MSTP)
IEEE 802.1w	Rapid Spanning Tree Protocoll (RSTP)
IEEE 802.1X	Port Based Network Access Control
IEEE 802.3	10Base-T Ethernet
IEEE 802.3ab	1000Base-TX Ethernet
IEEE 802.1ax, incl. 802.3ad	Link Aggregation Control Protocol (LACP)
IEEE 802.3ae	10 Gigabit Ethernet over fiber
IEEE 802.3af	Power over Ethernet (PoE)
IEEE 802.3at	Power over Ethernet Plus (PoE+)
IEEE 802.3bt	Power over Ethernet++(PoE++) Type 4
IEEE 802.3az	Energy Efficient Ethernet
IEEE 802.3u	100Base-T Ethernet
IEEE 802.3x	Flow Control
IEEE 802.3z	1000Base-X Ethernet

Supported RFC standards

RFC 854	Telnet Protocol Specification
RFC 1213	MIB II
RFC 1215	SNMP Generic Traps
RFC 1493	Bridge MIB
RFC 1769	Simple Network Time Protocol (SNTP)

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Supported RFC standards

RFC 2021	Remote Network Monitoring MIB v2 (RMONv2)
RFC 2233	Interface MIB
RFC 2460	Internet Protocol Version 6 (IPv6)
RFC 2613	SMON MIB
RFC 2617	HTTP Authentication
RFC 2665	Ethernet-Like MIB
RFC 2674	IEEE 802.1p and IEEE 802.1q Bridge MIB
RFC 2818	Hypertext Transfer Protocol Secure (HTTPS)
RFC 2819	Remote Network Monitoring MIB (RMON)
RFC 2863	Interface Group MIB using SMIv2
RFC 2933	IGMP MIB
RFC 3019	MLDv1 MIB
RFC 3414	User based Security Model for SNMPv3
RFC 3415	View based Access Control Model for SNMP
RFC 3587	IPv6 Global Unicast Address Format
RFC 3621	Power Ethernet MIB
RFC 3635	Ethernet-Like MIB
RFC 3636	IEEE 802.3 MAU MIB
RFC 4133	Entity MIBv3
RFC 4188	Bridge MIB
RFC 4251	The Secure Shell Protocol Architecture (SSH)
RFC 4291	IP Version 6 Addressing Architecture
RFC 4443	Internet Control Message Protocol (ICMPv6)
RFC 4541	IGMP- and MLD-Snooping
RFC 4668	RADIUS Authentication Client MIB

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Supported RFC standards

RFC 4670	RADIUS Accounting MIB
RFC 5519	Multicast Group Membership Discovery MIB

Scope of delivery

Manual	Hardware Quick Reference (DE/EN), Installation Guide (DE/EN)
Cable	Serial configuration cable, 1.5m
Cable	IEC power cord
Power supply	1x swappable PSU (expandable up to 2 PSUs for redundancy / higher PoE budget)
19" brackets	Two 19" brackets for rackmounting

Support

Warranty extension	Free warranty extension up to 5 years (replacement service for defects), for details, please refer to the service and support conditions at: www.lancom-systems.com/support-conditions or at www.lancom-systems.com/rma
Security updates	Up to 2 years after End of Sale of the device (but min. 5 years, see www.lancom-systems.com/product-tables), can be extended by purchasing LANcare products
Software Updates	Regular free updates including new features as part of the LANCOM Lifecycle Management www.lancom-systems.com/lifecycle)
Manufacturer support	For LANcommunity partners up to the End of Life of the device. For end customers with LANcare Direct or LANcare Premium Support during the LANcare validity
LANcare Advanced L	Security updates until EOL (min. 5 years) and 5 years NBD advance replacement with delivery of the replacement device within one business day (8/5/NBD), item no. 10732
LANcare Direct Advanced 24/7 L	Direct, prioritized 10/5 manufacturer support incl. 24/7 emergency hotline and security updates for the device, NBD advance replacement with delivery of the device on the next business day (24/7/NBD), guaranteed first response times (SLA) of max. 30 minutes for reporting massive operational disruptions by telephone (priority 1) and max. 4 hours for all other concerns (priority 2), term-based for 1, 3, or 5 years (item no. 10782, 10783 or 10784)
LANcare Direct 24/7 L	Direct, prioritized 10/5 manufacturer support incl. 24/7 emergency hotline and security updates for the device, guaranteed first response times (SLA) of max. 30 minutes for reporting massive operational disruptions by telephone (priority 1) and max. 4 hours for all other concerns (priority 2), term-based for 1, 3, or 5 years(item no. 10758, 10759 or 10760)
LANcare Direct Advanced 10/5 L	Direct, prioritized 10/5 manufacturer support and security updates for the device, NBD advance replacement with delivery of the device on the next business day (10/5/NBD), guaranteed first response times (SLA) of max. 2 hours for reporting massive operational disruptions by telephone (priority 1) and max. 4 hours for all other concerns (priority 2), term-based for 1, 3, or 5 years (item no. 10770, 10771 or 10772)
LANcare Direct 10/5 L	Direct, prioritized 10/5 manufacturer support and security updates for the device, guaranteed first response times (SLA) of max. 2 hours for reporting massive operational disruptions by telephone (priority 1) and max. 4 hours for all other concerns (priority 2), term-based for 1, 3, or 5 years (item no. 10746, 10747 or 10748)

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LANCOM Management Cloud

LANCOM LMC-C-1Y LMC License	LANCOM LMC-C-1Y License (1 Year), enables the management of one category C device for one year via the LANCOM Management Cloud, item no. 50106
LANCOM LMC-C-3Y LMC License	LANCOM LMC-C-3Y License (3 Years), enables the management of one category C device for three years via the LANCOM Management Cloud, item no. 50107
LANCOM LMC-C-5Y LMC License	LANCOM LMC-C-5Y License (5 Years), enables the management of one category C device for five years via the LANCOM Management Cloud, item no. 50108

Accessories*

1000Base-SX SFP transceiver module	LANCOM SFP-SX-LC1, item no. 61556
1000Base-SX SFP transceiver module	LANCOM SFP-SX2-LC1, item no. 60183
1000Base-LX SFP transceiver module	LANCOM SFP-LX-LC1, item no. 61557
1000Base-LX SFP BiDi transceiver module	LANCOM SFP-BiDi1550-SC1, item no. 60201
10GBase-SX SFP transceiver module	LANCOM SFP-SX-LC10, item no. 61485
10GBase-LX SFP transceiver module	LANCOM SFP-LX-LC10, item no. 61497
10GBase-LX SFP transceiver module	LANCOM SFP-LR40-LC10, item no. 60182
10GBase-LX SFP BiDi transceiver module	LANCOM SFP-BiDi1310-LC10, item no. 60202
10G multi gigabit Ethernet copper module	LANCOM SFP-CO10-MG, Art.-Nr.: 60170, max. 1 module usable due to increased power consumption and associated heat
10G Direct Attach Cable 1m	LANCOM SFP-DAC10-1m, Art.-Nr.: 61495
10G Direct Attach Cable 3m	LANCOM SFP-DAC10-3m, Art.-Nr.: 60175
Power supply (swappable)	LANCOM SPSU-920, item no. 61498
Rack mount rails	LANCOM Switch Rack Mount L250, item no. 61432
LANCOM Power Cord (UK)	IEC power cord, UK plug, item no. 61650
LANCOM Power Cord (CH)	IEC power cord, CH plug, item no. 61652
LANCOM Power Cord (US)	IEC power cord, US plug, item no. 61651
LANCOM Power Cord (AU)	IEC power cord, AU plug, item no. 61653
*) Note	Support for third-party accessories (SFP and DAC) is excluded and cannot be granted

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Item number(s)

LANCOM GS-3652XUP   61879