

Full Gigabit Switches Advanced Line

Firmware 1.29 or higher

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IE-SW-AL12M-8GT-4GESFP



IE-SW-AL08M-8GT



IE-SW-AL14M-12GT-2GESFP



IE-SW-AL24M-16GT-8GESFP



IE-SW-AL08M-8GTPOE



IE-SW-AL06M-4GTPOE-2GESFP

Full Gigabit Switches Advanced Line

This Security Data Sheet provides you with a condensed overview of the security functions of the devices. It is an addition to the product specific

- Hardware Installation Guide
- User manual

Security intended use:

The device is intended for the realization of communication networks within an industrial environment, It is intended to be used in a restricted access location (e.g. locked cabinet) with no direct internet connection.

In order to protect equipment, systems, machines and networks against cyber threats, it is necessary to implement (and maintain) a complete state-of-the-art industrial security concept. The customer is responsible for preventing unauthorized access to his equipment, systems, machines and networks. Systems, machines and components should only be connected to the corporate network or the Internet if necessary and appropriate safeguards (such as firewalls and network segmentation) have been taken.

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General information

Weidmüller PSIRT (Product Security Response Team)

Comment	Link
Weidmueller has established a PSIRT and provides information on product-specific security vulnerabilities and their elimination on the Weidmüller website "Security Advisory Board"	https://support.weidmueller.com/support-center/popular-resources/security-advisory-board
Weidmueller publishes security vulnerabilities of its products at VDE @CERT.	https://cert.vde.com/en/

Additional Security Documents

Comment	Reference
Weidmüller Security Guideline (in preparation)	„Industrial Product Security Guideline“ at https://support.weidmueller.com/support-center

Weidmüller security activities

Weidmüller will implement a certified Secure Product Development Process according to IEC62443-4-1.

Weidmüller will offer "Secure by Design" products in accordance with IEC62443-4-2. If required, please contact our sales staff

How to find product information

Device type	Physical/optic: Type plate on device, Label on packaging Web interface: „Device Name“ on device homepage, Note 1 Command Line Interface: „show version“ -> „System Name“, Note 1 SNMP: „sysName“ (mib-2.system), Note 1 Fieldbus: „Product Name“ via Modbus/TCP, PROFINET, EtherNet/IP, Note 1, Note 2 <small>Note 1: changeable by customer; Note 2: Modbus/TCP and EtherNet/IP is disabled by default</small>
Software version	Physical/optic: no Web interface: „Software Version“ on device homepage Command Line Interface: „show version“ -> „Software Version“ SNMP: „swFwVer.1“ (private mib) Fieldbus: Modbus/TCP, Note: disabled by default
Hardware version	Physical/optic: Type plate on device, Label on packaging
MAC address	Physical/optic: Type plate on device, Label on packaging Web interface: „MAC Address“ in menu „System Information“ Command Line Interface: „show version“ command
Serial number	Physical/optic: Type plate on device, Label on packaging Web interface: „Serial Number“ in menu „System Information“

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Technical information

Interfaces

Type	No	Default	Can be changed	Comment
Ethernet	Device type dependend	Active	Yes	Disable unused ports
Console	1	Active	Yes	Disable console when Command Line Interface not used
Reset button	1	Active	No	Pressing only possible with a small object (not possible with fingers). Device is reset to factory settings after 5 seconds.
External Backup & Restore module	1	Active	Yes	Disable feature if not used

Network access functions

Function	Default	Can be changed	Comment
Port usage	Active	Yes	Disable unused ports
Static MAC-address table	Disabled	Yes	Assign a specific MAC address to any specific port; that port will only accept traffic coming from that specific MAC address (device)
Device Binding	Disabled	Yes	Bind a port to a specific IP/MAC address in order to execute any of the following actions: 1) Periodically ping the connected device to confirm that still is alive; perform specific action if no alive (ex: block the port) 2) Monitor the flow stream and report any anomaly 3) Monitor ingress packets to detect DOS (Denial of Service) attacks; perform specific actions if DOS attack detected (ex: block the port)
Device authentication via RADIUS server (IEEE 802.1X)	Disabled	Yes	Port-based access control procedure that prevents unauthorized access to a network by requiring users to first submit credentials for authentication. One or more central servers (RADIUS) determine whether the user is allowed to access to the network
Access Control Lists	Disabled	Yes	Allows the user to specify, for every specific port, the individual frame types allowed or denied in the network
Limit control on ports	Disabled	Yes	Monitors the maximum number of users connected to a port of the switch. If the limit number is reached, an action can be programmed (ex: block the port)
VLAN segmentation	Disabled	Yes	Isolate different users in the network thanks to VLAN segmentation

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Component access functions

Function	Default	Can be changed	Comment
Login & Password	Active	Yes	Default credentials: Login: admin, Password: Detmold Strongly recommended to change to a strong and individual password!
User Management	Active	Yes	Administration user created by default. Administrators can create additional users and define their privilege roles. Recommended to define additional user based on the security concept of least privilege.
User authentication via external server	Disabled	Yes	Only users registered in an external server (TACACS+ or RADIUS) may access to the switch after authentication
Web via HTTPS	Active	Yes	Secure web access. Recommended for web access
Web via HTTP	Active	Yes	Not secure web access. Not recommended, disable function
CLI via Console	Active	Yes	Secure console input via Command Line Interface (CLI). Recommended to use only one secure device access channel. If not used disable function
CLI via Ethernet port with SSH	Active	Yes	Secure CLI access
CLI via Ethernet port using TELNET	Disabled	Yes	Not secure CLI access. Not recommended, disable function
SNMP (V1,V2c, V3)	V2c active	Yes	Recommended SNMP V3 if required because SNMP V2c is not secure. If not used disable function
Modbus/TCP	Disabled	Yes	Get switch information via unsecure Modbus/TCP
EtherNet/IP	Disabled	Yes	Get switch information via unsecure EtherNet/IP
PROFINET	Active	Yes	Get switch information via unsecure PROFINET. Recommended to disable if the switch is not used as a PROFINET device.
Specific IP addresses	Disabled	Yes	Specify the IP address (or IP address range) that can access to the management of the switch
Specific VLAN ID	VLAN ID: 1	Yes	Program a specific VLAN ID to access to the management of the switch. It will only be possible to manage the switch using ports where this specific VLAN ID is accepted

Software and Data

Function	Default	Can be changed	Comment
Backup & Restore	On demand		The configuration of the switch can be stored in a file; similarly, a configuration file can be uploaded on a switch. It is possible to execute this operation through a PC or through our EBS (External Backup & Restore) module type 2682610000
Firmware update	On demand		From the management of the switch the user can easily upgrade its firmware (FW) whenever any new version is available. Latest FW version of every product will always be available at Weidmüller's online catalogue.
Logging	Active	No	The switch will always store the main events in a log. This log can be displayed and downloaded from the Management System and can also be sent to a Syslog server. The security relevant logs will be extended in a next firmware version.
Syslog	Disabled	Yes	Send logging information to an external Syslog server

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Services and Ports

Function	Port	Protocol	Default	Can be changed	Comment
HTTP	80	TCP	Opened	Yes	Web access unsecure
HTTPS	443	TCP	Opened	Yes	Web access secure
TELNET	23	TCP	Closed	Yes	CLI access
SSH	22	TCP	Opened	Yes	CLI access secure
SNMP	161	UDP	Opened	Yes	Simple Network Management Protocol
NTP Client	Random port above 1024	UDP	Closed	Yes	Time synchronization
NTP Server	123	UDP	Closed	Yes	Time synchronization
Modbus/TCP	502	TCP	Closed	Yes	Access to Modbus registers
Profinet	49152, 49153, 49154, 49155, 49156	UDP	Opened	Yes	Profinet Conformance Class B
EtherNet/IP	44818 2222	TCP UDP	Closed	Yes	EtherNet/IP controller compatible

Additional Support Center information

Headline	Comment	Reference
General	Further product-specific information and help can be found in the Weidmüller Support Center. Use the product type (e.g. IE-SW-AL12M-8GT-4GESFP) in the search field.	https://support.weidmueller.com/support-center/