

## LANactive Industry 10 port managed Full Gigabit Ethernet Switch

- 10 ports in total, variable number of SFP ports (2, 4 or 8)
- Up to 8 PoE+ ports with max. 240W power budget
- Up to 6 PoE++ ports with max. 540W power budget
- Built-in I/O module with 2 input and 2 output ports
- Wide operating temperature range, -40 ... +85°C
- Wide input power range, 18 ... 60V DC

## Description

Aginode managed Industrial Ethernet iGigaSwitch 10xx E+ HW5 series is part of the LANactive Industry product portfolio and designed for installing a robust and reliable networks in harsh environments.

The LANactive Industry iGigaSwitch 10xx series is designed to provide a maximum of network availability, security and longest lifetime in harsh environments.

The iGigaSwitch 10xx series provides great flexibility in network design - it has 10x Gigabit ports including 2, 4 or 8 SFP ports. The iGigaSwitch is designed for DIN-Rail mounting and comes with redundant input for powering.

## I/O interfaces

The integrated I/O interface of the iGigaSwitch 10xx series allow a fast, simple and low-cost integration of non-IP based devices directly e.g. different sensors, controllers, buttons etc. The switches are offering extensive management functionalities with interactions, sending of messages as well as the activation of alarms.

## Power over Ethernet (PoE/PoE+/PoE++)

Up to 8x connected Ethernet devices can be supplied with Power over Ethernet. According to the latest IEEE 802.3at (PoE+) standard, up to 30 watts per port are available for each connected device, with total budget of 240 watts.

The latest generation of the iGigaSwitch 1004 E+ SFP-4VI HW5 provides PoE++ according to IEEE 802.3bt, with 90W per port and a total budget of 540W per switch.

## IEC 61850

Aginode iGigaSwitch family complies to IEC 61850 requirements (parts 6, 7-1, 7-2, 7-3, 7-4, 8-1, 9-1 and 9-2 Communication networks and systems for power utility automation). This functionality is critical for Smart grid and allows to use standardized equipment to ensure correct and reliable communication of all networked devices of Smart grid infrastructure (including switches, PLCs, different controllers, sensors etc.) with each other and with central SCADA.

The compliance is tested and confirmed by KEMA/DNV-GL.



IEC 61850



KEMA



Made in Germany

## LANactive

## Standards

IEEE 802.3  
 IEEE 802.3u  
 IEEE 802.3ab  
 IEEE 802.3af  
 IEEE 802.3at  
 IEEE 802.3az  
 IEEE 802.3z  
 IEEE 802.3x  
 IEEE 802.1AB  
 IEEE 802.1D  
 IEEE 802.1Q  
 IEEE 802.1X  
 IEEE 802.1AX  
 IEEE 802.3ad  
 IEC 61850-6, 7-1, 7-2, 7-3, 7-4, 8-1, 9-1, 9-2  
 IEC 61850-3



Designed for harsh environments



PoE/PoE+/PoE++



Compact design



Interoperability



Easy maintenance



Redundancy



Security and reliability



High availability

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## Hardware Features

Ordering Information	iGigaSwitch 1002 E+ SFP-2VI HW5	iGigaSwitch 1004 E+ SFP-4VI HW5	iGigaSwitch 1008 E+ SFP-8VI HW5
Article Number	903504	903505	903506
<b>LAN Interfaces</b>			
User Port (RJ45)	8x 1000Base-T	6x 1000Base-T	2x1 000Base-T
Uplink Port (SFP)	2x 100/1000Mbps	4x 100/1000Mbps	8x 100/1000Mbps
<b>Power over Ethernet (optional)</b>			
Max. Number of PoE+ ports	8	6	2
Max. PoE power budget	240W	180W	60W
Max. Number of PoE++ ports	-	6	-
Max. PoE++ power budget	-	540W	-
<b>Diagnostic Functions (Interfaces)</b>			
Digital Diagnostics Monitoring Interface		Yes	
Twisted Pair cable diagnostic		Yes	
<b>General</b>			
Dimensions [W x H x D]	83mm x 133mm x 125mm		
IP Protection Class	IP30 (EN 60529)		
Mounting	35mm DIN-Rail Mounting according to EN 60715, (EN 50022) Different mounting positions of DIN-rail clip - vertical and horizontal switch mounting. Optional: wall mounting.		
Material	Anodised/Varnished Aluminium		
Colour	Black		
Ambient Temperature	Operation: -40 ... 85°C, Storage: -40 ... 85°C		
Relative Humidity	20 - 90% (non-condensing)		
Weight	1300g		
MTBF	> 500,000h		
<b>Power Supply</b>			
Input Voltage for Switch	18 ... 60V DC		
Power Fail Hold Up Time	> 10ms @ > 36V input voltage		
Input Voltage for Power over Ethernet	52 ... 57V DC (typ. 54V DC)		
Power Consumption (without PoE)	13W (standby) ... 15W (typ.) ... 22W (fully connected)		
Heat Output	52 BTU(IT)/h (typ.)		
Connector	5-pin terminal blocks, screw-on type (up to 2.5 mm <sup>2</sup> ) / (+) (-) (+) (-) (FPE)		
Connector PoE	3-pin terminal blocks, screw-on type (up to 2.5 mm <sup>2</sup> ) / (+) (-) (FPE)		
<b>I/O Interfaces</b>			
I/O Interface Connector	12-pin terminal block (screw-on type)		
Number of Outputs	2		
Output Switching Current/Voltage	2A / 30V DC		
Auxiliary Voltage Source	24V DC max. 42mA		
Number of Inputs	2		
Input Voltage Range	12 ... 60V DC		
Dry Contacts Support	Yes, via aux voltage		

## Software Features

### Switching Parameters

Switching Type	Store-and-Forward, self-learning
Switching Capacity	50Gbps, non-blocking
Packet Forwarding Rate	2x 1.488Mpps per port
Max. Frame Size	9.600Bytes (Support of Jumbo frames)
Packet Buffer	512 kBytes
Latency (RFC1242)	100Mbps / 64Byte (FIFO/LIFO) 9µs / 9.3µs 100Mbps / 1518Byte (FIFO/LIFO) 125µs / 4µs 1000Mbps / 64Byte (FIFO/LIFO) 2.7µs / 2.2µs 1000Mbps / 1518Byte (FIFO/LIFO) 15µs / 2.5µs
MAC-Address Table	8.192 MAC-Addresses
VLANs	IEEE802.1q with up to 256 Groups
Quality of Service Layer 2	IEEE802.1p Class of Service (4 Queues per Port)
Quality of Service Layer 3	RFC2474/3168 DSCP (4 Queues per Port)
Bandwidth Limitation	Bitrate and Number of Packets
Fabric Attach	Basic Fabric Attach Client Support

### Management

	On-Board High-Performance Management
LEDs	Management, Port Status and Activity, Memory Card
Zero-Touch Configuration	Via LANactive Manager Controller
IP-Address	IPv4, IPv6
DHCP-Client	DHCP, DHCPv6
DHCP Relay Agent	Yes
File Transfer	TFTP, SCP
Console Port	V.24 with Aginode Console Cable
Web-Interface	HTTP, HTTPS
Command Line Interface	SSH, Telnet
SNMP	SNMPv1, v2c, v3
Further Management Protocols	Syslog, LLDP, LLDP-MED, CDP
Time Synchronisation	SNTP
Port Statistics	Detailed per Port

### Redundancy

Redundancy Protocols	STP, RSTP, MSTP, MRP
Link Aggregation	LACP

### Security

Password Protection	Two Access Levels (R/W or R/O)
Authentication via Radius	CLI and LANactive Manager
Authentication via TACACS+	CLI and LANactive Manager
ACL for Management Interface	Up to 16 Access Control Lists
Portsecurity via MAC-Address	Up to 3 predefined MAC-Addresses
Portsecurity via Radius	IEEE802.1x with MAC Bypass
DHCP Snooping	Yes
Loop and Broadcast Limiter	Yes
Firmware Update	Dual Firmware Image
Configuration-/Reset Button	Yes / Yes
Memory Card	SD-Card with own MAC-Address (optionally)

## Standards

### CE - Conformity

Electro Magnetic Capability Directive	2014/30/EU
Low Voltage Directive	-
RoHS 2	2011/65/EU

## Dimensions

