iGigaSwitch 10xx E+ HW5 Series

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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
IEEE802.3az
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	88306422	88306424	88306428
LAN Interfaces			
User Port (RJ45)	8x 1000Base-T	6x 1000Base-T	2x1 000Base-T
Uplink Port (SFP)	2x 100/1000Mbps	4x 100/1000Mbps	8x 100/1000Mbps
Power over Ethernet (optional)			
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	-
Diagnostic Functions (Interfaces)			
Digital Diagnostics Monitoring Interface		Yes	
Twisted Pair cable diagnostic		Yes	
General			
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	
Power Supply			
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 mm²) / (+) (-) (+) (-) (FPE)	
Connector PoE		3-pin terminal blocks, screw-on type (up to 2.5 mm²) / (+) (-) (FPE)	
I/O Interfaces			
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	

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Software Features

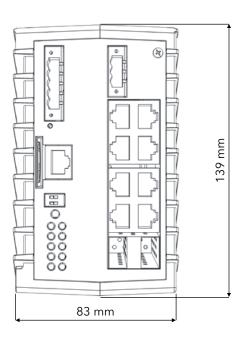| Switching Parameters	
Switching Type	Store-and-Forward, self-learning
Switching Capacity	50Gbps, non-blocking
Packet Forwarding Rate	2x 1.488Mpps per port
Max. Frame Size	9.600Bytes (Support of Jumbo frames)
Packet Buffer	512 kBytes
Latency (RFC1242)	100Mbps / 64Byte (FIFO/LIFO) 9µs / 9.3µs 100Mpbs / 1518Byte (FIFO/LIFO) 125µs / 4µs 1000Mbps / 64Byte (FIFO/LIFO) 2.7µs / 2.2µs 1000Mpbs / 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)

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Standards

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

Dimensions