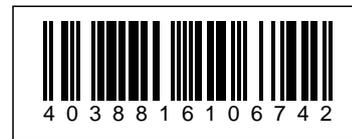# ALLNET Switch industrial full managed Layer2+ 6 Port GbE • PoE Budget 360W • 4x PoE bt • 2x SFP • Fanless • DIN • ALL-SGI8106PMJ-BT

>>> Go to the shop article

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ALLNET Switch industrial full managed Layer2+ 6 Port GbE • PoE Budget 360W • 4x PoE bt • 2x SFP • Fanless • DIN • ALL-SGI8106PMJ-BT

Highlights:

- 4 Gigabit ports with PoE AF/AT/BT support up to 90 watts per port
- 2x SFP ports for fibre optic GBIC e.g. ALL4750/4751-INDU etc.
- **PoE ports 1-4 max. PoE IEEE802.3bt 90W**
- Layer2+ features such as 802.1Q VLAN, port isolation IGMP, LLDP, PoE+ management, IP source guard, ACLs etc.
- Supports spanning tree STP (802.1D) and RSTP (802.1W) and MSTP (802.1s)
- Supports PoE management such as PoE scheduling, PoE PD-alive, port PoE priority, soft reboot PoE non-stop
- Supports G.8032 quick ring protocol. Self-healing <20ms
- Max. PoE budget = 360 watts
- Freeless metal housing with optimised heat dissipation
- Easy to use as a table-top device, wall-mounted or top-hat rail
- Extended temperature range from -40°C ~ +75°C
- **NEW: PoE & LAN JSON Java script notation API for ON/OFF üvia remote**

ALLNET ALL-SGI8106PMJ-BT Industrial Switch is a managed Layer 2+ Gigabit BT PoE switch with 4-port Gigabit IEEE802.3af/at/bt PoE + 2-port Gigabit SFP optical port. It is specially designed to build a full Gigabit backbone to transmit reliable and fast data in demanding industrial environments and to forward data to a remote network via

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fibre optic cable. It has a robust IP40 enclosure and a redundant power supply system. The industrial managed switch offers user-friendly but advanced IPv6/IPv4 management interfaces and a soft reboot PoE non-stop function. It is the best investment for industrial companies to expand or upgrade their network infrastructure and can also be used for the lighting industry, security surveillance, enterprise parks and other applications.

Intelligent PD alive testing for frozen PDs

The ALL-SGI8106PMJ-BT industrial PoE switch with 4 ports can be configured to monitor the status of the connected PDs in real time. As soon as the PD stops working and responding, the ALL-SGI8106PMJ-BT restarts the power supply to the PoE port and gets the PD up and running again. In addition, reliability is significantly improved by the fact that the PoE port resets the PD power supply, reducing the administrative burden on the administrator.
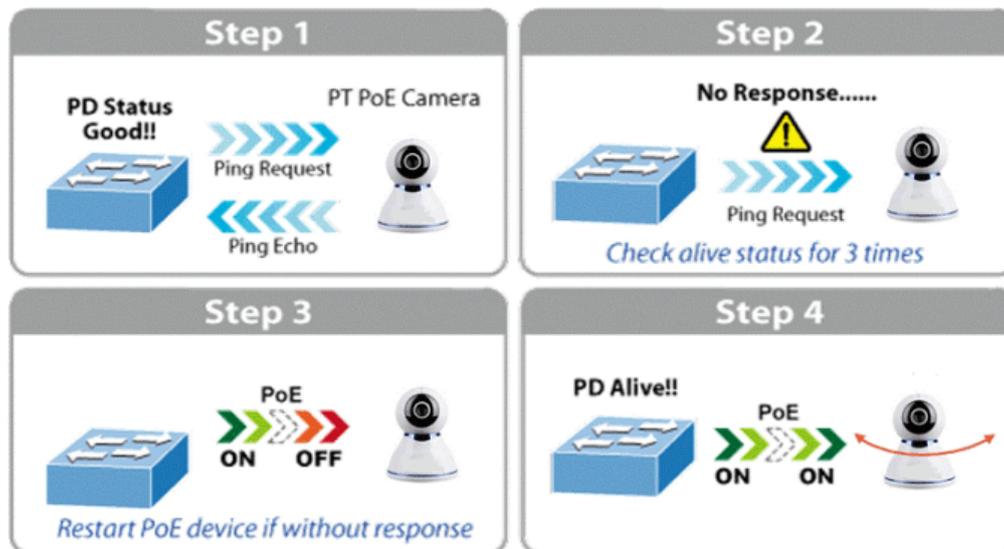
PoE schedule function for energy saving

To protect the environment, the ALL-SGI8106PMJ-BT Ethernet PoE switch can effectively control the power supply in addition to its ability to deliver high wattage. The PoE schedule function helps to enable or disable the PoE power supply for each PoE port during specific time intervals and is a powerful feature that helps SMEs or enterprises to save power and money.
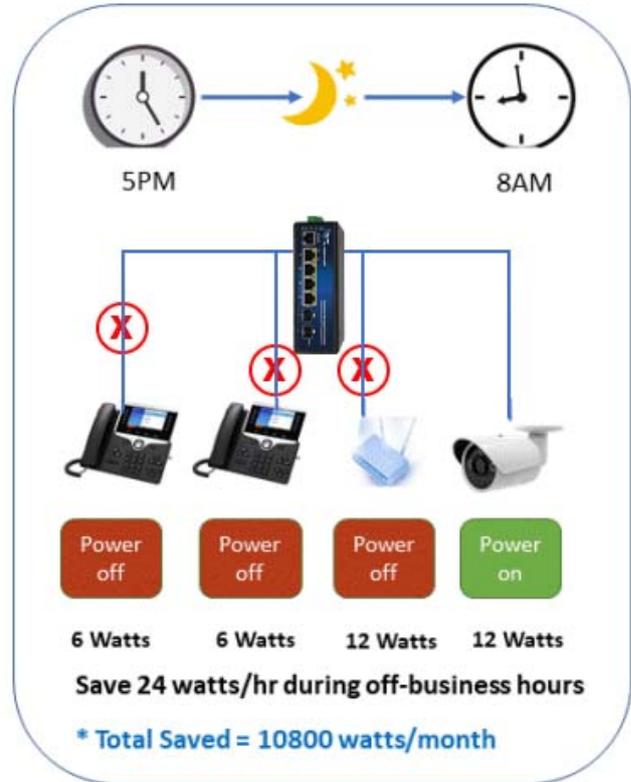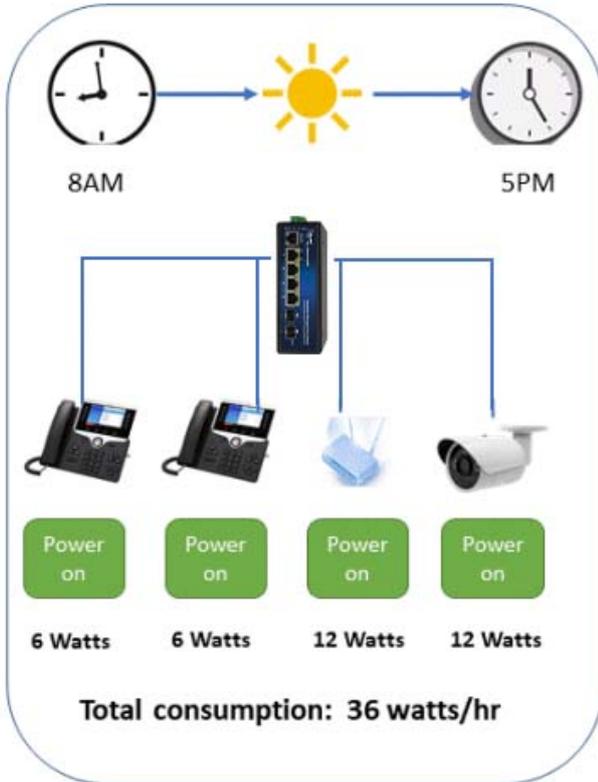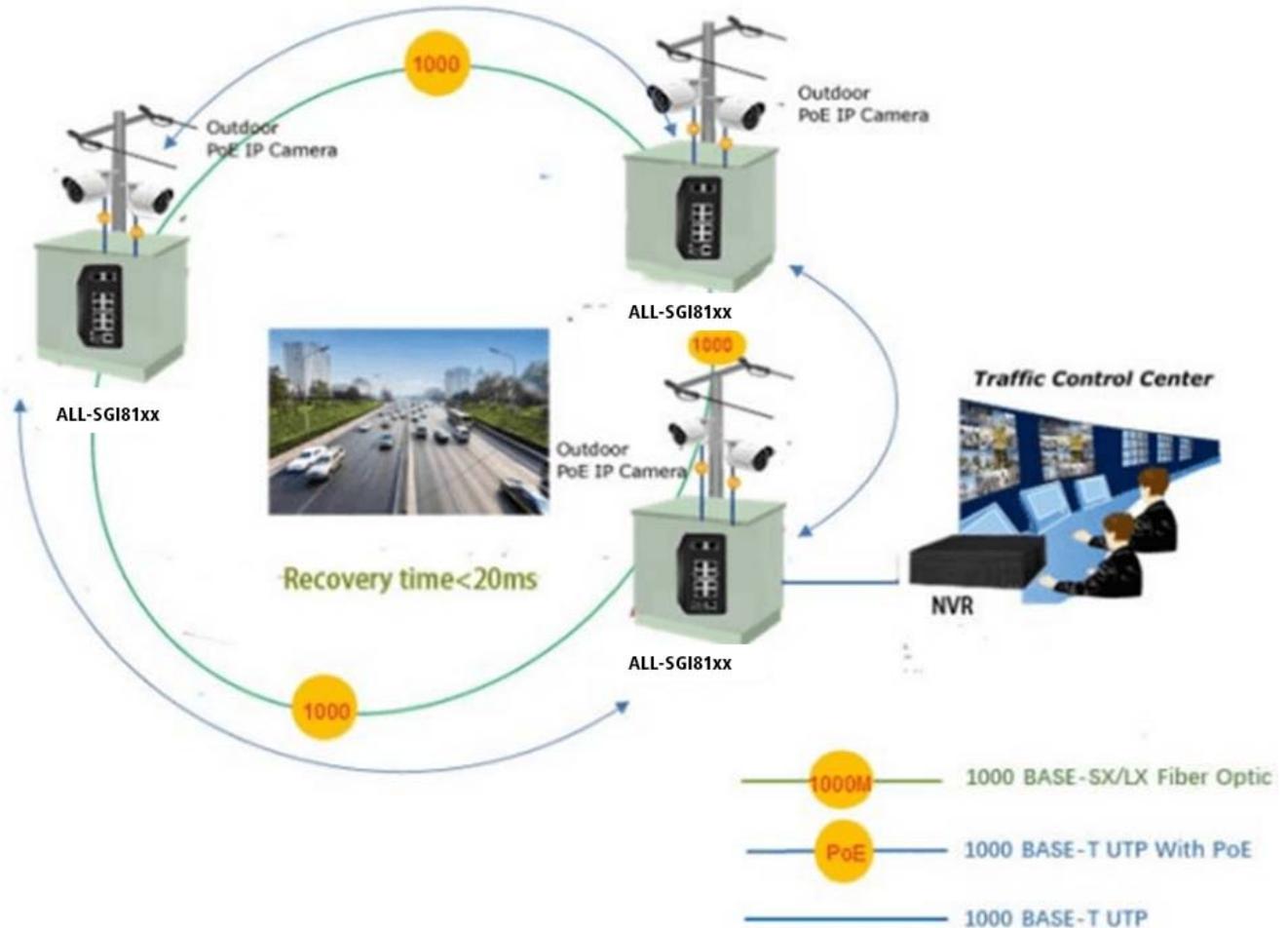
Planned PD restart

The intelligent PoE switch ALL-SGI8106PMJ-BT allows each of the connected PoE IP cameras or PoE wireless access points to be restarted at a specific time every week. This reduces the risk of the IP camera or AP crashing due to a buffer overflow.

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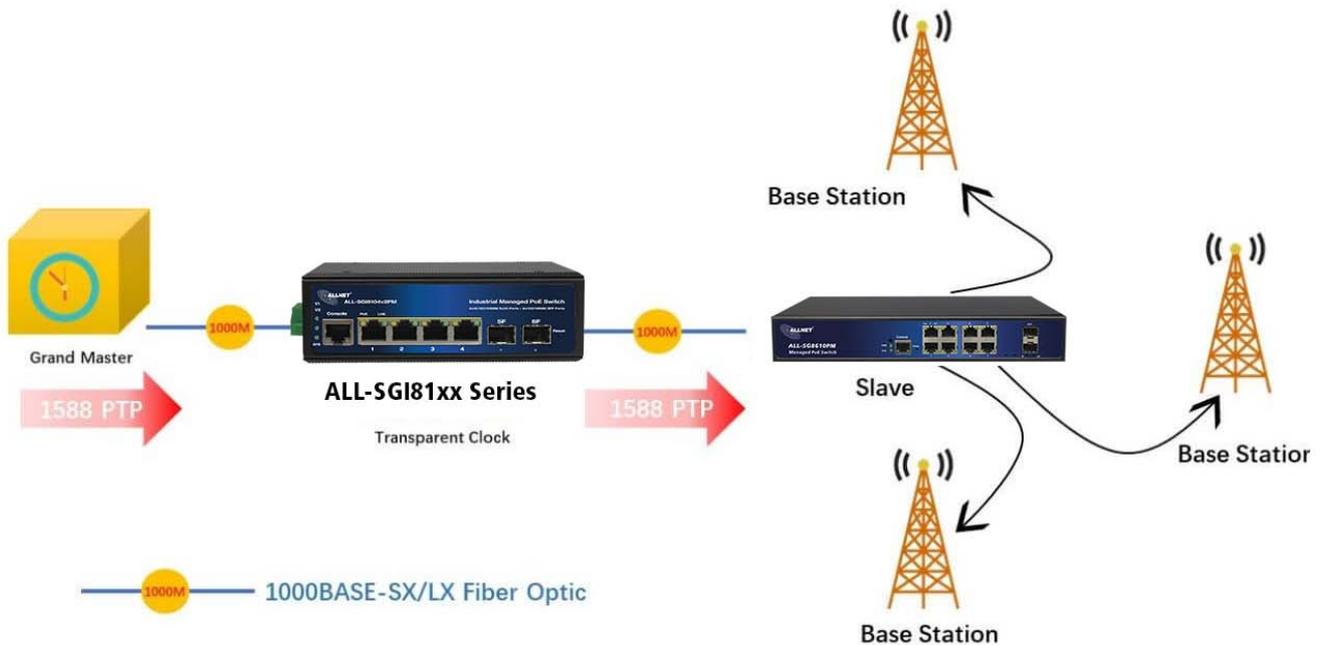**Redundant ring with fast recovery for critical network applications**

The ALL-SGI8106PMJ-BT supports redundant ring technology and has a strong, fast self-recovery capability to prevent interruptions and external intrusions. It integrates advanced ITU-T G.8032 ERPS technology, Spanning Tree Protocol (802.1s MSTP) and a redundant power supply system into the customer's industrial automation network to improve system reliability and uptime in harsh factory environments. In a given simple ring network, the data link recovery time can be as low as 20 ms.

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ERPS Ring for Video Transmission Redundancy

1588 time protocol for industrial computer networks

The ALL-SGI8106PMJ-BT is ideal for telecommunications and carrier Ethernet applications and supports MEF service provisioning and timing-over-packet solutions for IEEE 1588 and synchronous Ethernet.

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Strong Layer 2 functions

The ALL-SGI8106PMJ-BT Layer 2 Ethernet switch can be programmed for advanced Layer 2 switch management functions such as dynamic port link aggregation, 802.1Q tagged VLAN, Q-in-Q VLAN, private VLAN, Multiple Spanning Tree Protocol (MSTP), QoS, bandwidth control, IGMP snooping and MLD snooping. By aggregating the supporting ports, the ALL-SGI8106PMJ-BT enables the operation of a high-speed trunk group that has multiple ports and also supports fail-over.

Efficient and versatile management methods

For efficient management, the ALL-SGI8106PMJ-BT is equipped with console, web and SNMP management interfaces.

With the integrated web-based management interface, it offers a user-friendly, platform-independent management and configuration option.

For text-based management, access is possible via Telnet and the console port.

For standards-based monitoring and management software, it provides an SNMPv3 connection that encrypts the packet contents for secure remote management during each session.

Intelligent PoE switch with SFP DDM function

The ALL-SGI8106PMJ-BT supports the SFP DDM (Digital Diagnostic Monitor) function, which allows the network administrator to easily monitor real-time parameters of SFP transceivers, such as optical output power, optical input power, temperature, laser bias voltage and transceiver supply voltage.

The technical features and stable housing make the switch the ideal solution for industrial applications. Supplied

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without power supply unit - please order separately!

JSON-Java Script Object Notation API

With the JSON API, the ADMIN can create a special user and grant this user authorisation for JSON. We have focussed on 2 functions that we consider to be important.

- PoE ON/OFF & LAN Port Enabled/Disabled (for switches with PoE function)
- LAN Port Enabled/Disabled (for switches without PoE)

JSON Examples

ALLNET JSON API
(json output, switching with json response)

It will ONLY be switched, NO-sensor values read!

Valid for ALLNET PoE switch ALL-SG8826PMX-10G, ALL-SG8950PM, ALL-SG8926PM.
New additions from 2024: All ALL-SG86xx and ALL-SGI81xx with the suffix "J" for JSON in the name.

In this description used Device IP is "192.168.0.100".
This must be replaced by the assigned address.

Description without Activated Basic authentication. If this is enable, you must pass the Authentication in URL.
(Basic Authentication: https: // USER: PASSWORD@192.168.0.100/xml/json.php)

Call "https://192.168.0.100/xml/json.php".

Parameter

„id={id}" Number or name of the switching sensor / actuator
„set={0/1/toggle}" Switch actuator off or on
„callback={objekt}" (optional) Values are returned as JSONP object

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Technical details:

Model	ALL-SGI8106PMJ-BT
Copper ports	4x 10/100/1000BASE-T RJ45 auto-sensing ports
Fibre ports	2x 100/1000BASE-T SFP interfaces, supports 100/1000Mbps dual mode
PoE ports	4x-802.3af/802.3at/bt PoE injector ports
Console ports	1 x RS-232-to-RJ45 serial port (115200, 8, N, 1)
Switch architecture	Store-and-Forward
Switch Fabric	12Gbps/non-blocking
Throughput	8.928Mpps @64 bytes
Address Table	8K entries
Share Data Buffer	4.1 Mb
Jumbo Frame	9216 bytes
SDRAM	1Gb
Flash memory	128Mb

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Flow Control	IEEE 802.3x pause frame for full-duplex ; Back pressure for half-duplex
Reset button	>2 sec: Factory default and reset
Power Supply	48 ~ 57 VDC, 50/60Hz,Dual DC for PoE support 12VDC ~ 48VDC for non PoE support
PoE standards	IEEE 802.3af Power over Ethernet/PSE IEEE 802.3at Power over Ethernet Plus/PSE IEEE802.3bt PoE over Ethernet PlusPlus/PSE
PoE Power Supply Type	Per port 52V DC, Max. 90watts
LED Indicators	Power: Green Solid on--power work normal,off--power disconnected System:Green Blink--work normally, solid on--soft work abnormal, fast blink--soft upgrade PoE: Yellow Solid on--PoE work normally, Off--PoE doesn't work, Blink--PoE overload 10/100/1000T RJ45 Interfaces (Port 1 to Port 4): 1 000 LNK/ACT (Green), Blink--port connected with data transmission; Solid on--port connected without data transmission 100/1000Mbps SFP Interfaces (Port 5 to Port 6): Green Blink- port connected with data transmission; Solid on- port connected without data transmission
EMC	6KV surge protection (6KV common mode, 2KV differential mode), 6KV contact/8KV air ESD Surge Immunity:6KV Per: IEC61000-4-5 ESD Protection: ESD Level 4 Per: IEC61000-4-2;EFT Level 4 Per: IEC61000-4-4
Dimension	145x112x47.2mm
Weight	0.6kg
Working Temperature	-40°C to 75°C
Storage Temperature	-40°C to 80°C
Operation Humidity	5% to 95%, non-condensing
MTBF	50,000hrs

Layer 2 functions

Port configuration	Auto-negotiation

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	Flow control
	Port Mirror: TX/RX/BOTH; Many-to-1 monitor
	CPU Mirror
	Traffic statistics
Link aggregation	Static link aggregation
	LACP(Dynamic Trunk/Static Trunk)
	Algorithm based on Source/Destination MAC
	Algorithm based on Source/Destination IP
MAC Table	Aging Time
	Static MAC address
	Dynamic MAC address management
VLAN	4094 Active VLANs
	4094 VID
	802.1Q Tag VLAN
	Port VLAN
	Protocol VLAN
	MAC VLAN
	Voice VLAN
	802.1ad Q-in-Q tunnelling
	Private VLAN (Protected port)
	GARP/GVRP
ACL	256ACLs
	L2, L3 e L4
	Time-based ACL
	IP ACL
	MAC ACL

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	MAC-IP ACL
	User-Defined ACL
	ICMPv6
Spanning tree	802.1D Spanning Tree Protocol (STP)
	802.1w Rapid Spanning Tree Protocol (RSTP)
	802.1s Multiple Spanning Tree Protocol (MSTP)
	Loop Guard
	Root Guard
	TC-BPDU Guard
	BPDU Guard
	BPDU Filter
Ring Protection	<20ms G.8032 ERPS Ring
	Fast Ring
	ALLNET ring, < 20ms
Multicast	256 groups
	IGMP v1/v2/v3 Snooping, Fast Leave
	MLD Snooping
	Multicast VLAN
	IGMP filter
	MVR
	Multicast routing
QOS	8 mapping IDs to 8 level priority queues
	CoS port-based
	CoS 802.1p-based
	CoS DSCP-based
	Scheduling algorithms SP, WRR, SP+WRR

	Storm Control (Broadcast, Multicast, Unknown Unicast)
	Bandwidth control per port
	SWRR, DWRR for Scheduling
	Flow Redirect
	Precedence
	TOS
	Rate Limiting(Ingress/Egress)
	Stri Priority
Security Features	Port Security
	MAC address filter
	ARP Association (Manual, ARP scanning, DHCP snooping)
	ARP Protection
	AAA
	DAI
	DoS (Denial of Service)
	Classification of packages based on: End.MAC, IP End, TCP / UDP Ports,
	Protocol Type;
	802.1x Authentication (port-based e MAC-based)
	TACACS/TACACS+ Authentication
	RADIUS Authentication
	DHCP Filter
	Guest VLAN
	SSLv2/SSLv3/TLSv1
	SSHv1/SSHv2

	Restriction of WEB access based on: IP Address, And. MAC and Port; Port Isolation Loopback detection
Management	SNMP v1/v2c/v3 with Full Private MIBs RMON 4 groups WEB (HTTP/HTTPS) CLI (Telnet, Console, SSHv1/v2) Firmware upgrade via console/web/TFTP Configuration backup/reload Dual firmware LLDP Configuration export/import CDP Aware OAM (IEEE802.3ah) CFM (IEEE802.1ag) sFlow Telnet client
Synchronisation, IEEE1588	Support IEEE1588v2 transparent clock
Other Features	DNS Client DHCP Relay DHCP Client DHCP Snooping DHCP Option 66 DHCP option 67

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	DHCP option 82
	NTP/SNTP client
	UPNP
	UDLD
PoE management	Total PoE power budget control
	Per port PoE function enable/disable
	PoE admin-mode control
	PoE port power feeding priority
	Per PoE port power limitation
	PD classification detection
	PD alive check
	PoE schedule
	Soft-reboot PoE non-stop
Maintenance	Cable Diagnostics
	Ping
	SFP DDM (Digital Diagnostics Monitoring)
	Thermal protection
	System log (Local and Remote)
	Memory and CPU Monitoring
	Tracert/ Tracert 6

Layer 3 functions

Static Routing	IPv4 Unicast: Static Routing (Software Base)
	IPv6 Unicast: Static Routing (Software Base)
IPV6	IPv6 neighbour discovery (ND)
	Path maximum transmission unit (MTU) discovery
	Internet Control Message Protocol (ICMP) version 6

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	TCPv6/UDPv6
	Ping6
	Telnet(v6)
	Http/Https
	Interface IPV6
	ACL IPV6

Attributes

Attribute	Value
Anzahl Ports PoE/LAN:	4/0
Belüftung Switch:	Lüfterlos
Einsatzort Switch:	Industrial DIN
Extra Features:	JSON-PoE-API;
LAN Geschwindigkeit:	1Gbit/s
Management:	full managed
PoE Budget:	<500 Watt
PoE Port Leistung:	90W BT
SFP Geschwindigkeit:	SFP 1GBit
SFP Port Anzahl:	2
Weight:	1 Kg
Warranty:	24.00 Months

Accessories

Part No.	Name
200364	ALLNET 19"zbh. Gerätehalter für Hutschiene/DIN-Rail Geräte, T150mm/5HE, Lichtgrau, Frontmontage,
219493	ALLNET DIN-RAIL wall mount enclosure, T220mm, light gray, IP66, SP, 16x M25 ALL-DIN-101-AC

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Part No.	Name
219373	ALLNET DIN-RAIL Wandgehäuse, T223mm, Lichtgrau, IP55, SO-DIN-Serie,
219572	ALLNET DIN-RAIL Wallmount/PoE Smart-Managed Switch T220mm, Light Gray, IP66, SP, ALL-DIN-SGI8012PM
144991	ALLNET ALL-PR2012P-E / PoE Outdoor IP67 Repeater AT - AT
189128	ALLNET PoE 2x Extender Repeater Outdoor Switch IP67
128033	ALLNET Switch Modul ALL4750-INDU SFP(Mini-GBIC), 1000Mbit MM
128034	ALLNET Switch Module ALL4751-INDU SFP(Mini-GBIC), 1000Mbit,
166757	ALLNET Switch Modul ALL4752-INDU SFP(Mini-GBIC), 1000Mbit, LX/LC, 20Km, Singlemode, Industrial, -40/+85 Grad,
193149	ALLNET Switch Modul ALL4761-INDU SFP(Mini-GBIC), 1000Mbit, WDM(Bidi)/LC, Tx1310nm/Rx1490nm, 9u, 20Km, Singlemode, Industrial -40/+85 Grad,
193150	ALLNET Switch Modul ALL4762-INDU SFP(Mini-GBIC), 1000Mbit, WDM(Bidi)/LC, Tx1490nm/Rx1310nm, 9u, 20Km, Singlemode, Industrial -40/+85 Grad,
208404	ALLNET Switch Modul ALL4765-INDU SFP(Mini-GBIC), 1000Mbit, RJ45(TP), Industrial -40/+85 Grad,
212816	ALLNET Switch smart managed 6 Port Gigabit 95W / 4x PoE / 1x Gigabit / 1x PoE 90W BT In / "ALL-SG8206PDM"
222870	ALLNET Switch unmanaged 5 Port - 5x GbE - PoE Budget 85W - 1x bt out, 3x PoE af/at out, 1xPoE bt 90W in - Fanless, DIN, PD-Input - ALL-SG8005PD-BT90
99305	ALLNET / ALL95100 TP Cat 6 / PoE Surge arrester
198028	ALLNET TP Cat 6 Überspannungs-/Blitzschutz Surge Protector A
140522	Mean Well power supply - 48V 120W DIN rail, narrow
131244	Mean Well power supply - 48V 240W DIN rail
146994	Mean Well Power Supply - 48V 480W DIN Rail
146996	Mean Well Power Supply - 48V 960W DIN Rail
140955	TP(RJ45) POE-Tester, at/af, Endspan/Midspan, standard, Synergy 21,

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