



## DATA SHEET

### PoE+ managed Gigabit Ethernet switch - 4 ports including 2 PoE ports



#### FEATURES & BENEFITS

- 2 Gigabit PoE+ ports - 35W/port
- 2 Gigabit ports on SFP modules
- Ethernet controlled digital inputs and outputs
- Secure management interface (HTTPS, SNMP V3, SSH V2)
- Controlled network access (IEEE 802.1X protocol, radius authentication)
- VLAN configuration and QoS management
- Compact, small-footprint housing that can fit into a box
- Power supply 48 to 57VDC (54VDC nominal)
- Designed to operate in a harsh environment (-20°C to+ 60°C) and in electronically disturbed environments

#### DESCRIPTION

INet4+ is a secure manageable 4-port Gigabit Ethernet switch with:

- ✓ 2 RJ45 ports, 10/100/1000 Mbps, PoE+ compatible with IEEE 802.3af and IEEE 802.3at standards.  
Each PSE (Power Supply Equipment) PoE+ port can supply up to 35W to a PoE PD (Powered Device). The power to the PoE+ Ethernet ports can be managed by software supervision.
- ✓ 2 SFP ports, 100/1000 Mbps, to receive optical SFPs and RJ45 SFPs.

INet4+ has been designed to be used in highly secure networks. Thanks to its two SFP ports, it allows to build a chained optical network or a self-healing loop to connect 1 to 2 IP devices (IP camera, Wifi access point, VoIP phone, sensor,...) on each switch.

This equipment is perfectly suited for:

- ✓ Motorway networks
- ✓ Video protection networks
- ✓ Sensitive and industrial sites
- ✓ Telecommunications premises

Each port can be controlled independently, based on Ethernet Layer 2 (VLAN) functions. Various management protocols allow secure remote access to product status and configuration. The Ethernet switch event log can be sent via the Syslog/ SNMP protocol.

The web-based configuration interface is intuitive and easy to use, making it quick to learn.

Operating indicators are associated with the main functions of the product and provide diagnostic support.

The INet4+ PoE+ switch has features to secure equipment installations:

- ✓ An alarm can be activated on each of the PoE ports to report a lack of power.
- ✓ The Ping Watchdog feature allows the PoE power to be restarted to a device that is no longer responding and notified in the event log of the Ethernet switch.

- ✓ The intelligent scheduling feature of the Ethernet switch allows you to set time slots for PoE operation PoE for each port allowing better power management of the infrastructure.
- ✓ The PoE class limitation function per port ensures maximum power consumption of the installation.

The INet4+ is presented in a stand-alone housing which is very compact, robust (aluminium) and easy to install. An optional kit allows DIN rail mounting.

Other Gigabit Ethernet switches from the IFOTEC range can be combined.

## TECHNICAL SPECIFICATIONS

Ethernet Interfaces (IEEE 802.3)	
10/100/1000BASE-T PoE+ PSE 35W Port	
Number of interface(s)	2
<b>Connector</b>	<b>RJ45</b>
Support	10BASE-T (IEEE 802.3i), 100BASE-TX (IEEE 802.3u), 1000BASE-T (IEEE 802.3ab)
Rate auto-negotiation	Yes
Auto-MDI/MDI-X	Yes
Energy saving management	Energy Efficiency Ethernet (IEEE 802.3az)
Category 5e cable length	100 m
PoE Standard	PoE (IEEE 802.3af), PoE+ (IEEE 802.3at)
PoE Power supplied	35W for each port
Slot SFP 100/1000 witch media auto-detection	
Number of interface(s)	2
<b>Connector</b>	<b>SFP</b>
Support	SERDES 100Mbps (IEEE 802.3u), SERDES 1Gbps (IEEE 802.3z), In-band SGMII
Rate auto-negotiation	Yes
Digital Diagnostic Monitoring (DDM)	Yes
I/O interfaces	
Isolated Dry Contact input	
Number of interface(s)	1
<b>Connector</b>	<b>Screw terminal block (3.81 mm pitch)</b>
Number of contacts	2 contacts (IN-, IN+)
State «close»	Inputs connected
State «open»	Inputs not connected
Max. voltage	10V
Isolation	No
COM-NC Relay output	
Number of interface(s)	1
<b>Connector</b>	<b>Bornier à vis (pas de 3.81 mm)</b>

Number of contacts	2 pins (COM, NC)
Max. current	1A
Max. voltage	60VDC
Isolation	200VDC
Max. contact resistance	200mOhms
<b>Operating indicators</b>	
Power	Product powered
Alarm	Problem detected
Status	Product operating status
SFP status	SFP operating status
Link/Act Ethernet	Ethernet link/activity
PoE	PoE operating status
Digital Input	Input operating status
<b>Layer 2 Ethernet Switching Functions</b>	
<b>General</b>	
Bandwidth	Store and Forward system (no rate limiting)
Buffered memory	2Mbits
MTU (Layer 2)	64 to 2048 bytes (10240 bytes if Jumbo mode available)
Jumbo Frame	Yes
Number of entries in MAC address table	8192
Flow-control IEEE 802.3x	Yes
<b>VLAN</b>	
Modes	IEEE 802.1Q and IEEE 802.1ad
Count	32
VLAN configuration range (VID)	1 to 4094
Port Configuration modes	ACCESS, TRUNK, HYBRID
VLAN stacking (QinQ)	Yes
<b>QoS</b>	
Traffic classification	IEEE 802.1p, DSCP/TOS/DiffServ, Port priority
Queue management mode	WRR (Weighted Round Robin), SP (Strict Scheduling Scheduling Priority)
Number of output queues per port	4
Queue weight configuration	Yes
IEEE 802.1p Queues mapping	Yes
IEEE 802.1p Ingress remapping	Yes
<b>Ingress rate limiting</b>	
Limiting mode	Policing
Traffic classification	Unicast, unknow unicast, multicast, broadcast, queue
Number of limiting rules per port	4
<b>Egress rate limiting</b>	
Mode	Shaping
Traffic classification	None

Number of limiting rules per port	1
<b>Multicast</b>	
Multicast MAC address filter (egress traffic)	Yes
<b>Securing access</b>	
Enable/disable Ethernet ports	Yes
MAC ACL: MAC address filtering (ingress traffic)	5 per port
MAC address filter unknow unicast (egress traffic)	Yes
Access port control IEEE 802.1X / RADIUS	Yes
<b>Link redundancy management</b>	
Rapid-Spanning Tree (RSTP IEEE 802.1w)	Yes (STP IEEE 802.1D compatible)
<b>Troubleshooting</b>	
Ethernet ports: link, speed, duplex status	Yes
Ethernet ports: packet counters	Yes (unicast, multicast, broadcast, Checksum error, discard)
Ethernet ports: packet counters per queue	Yes
Ethernet Virtual Interfaces: packet counters	Yes (unicast, multicast, broadcast, Checksum error, discard, unknow protocol)
Memory saturation counter	Yes
Command to clear MAC address table	Yes
Filters on MAC address table display	Yes
<b>Advanced functions</b>	
Ethernet Remote I/O	UDP and TCP
<b>PoE</b>	
Ping watchdog (ICMP)	Yes
Weekly automatic reboot	Yes
Port Schedule	Yes
<b>Management interface</b>	
IP configuration	Static or DHCP
DHCP option 60	Yes
Secondary IP interface for troubleshooting	Yes
Ping client/server (ICMP)	Yes
Alarm manager	Yes
Local event log	10000 entries
Syslog	Yes
Web server	HTTPS (TLS 1.2, RSA/ECDSA)
Multi-languages for Web pages	Yes (English / French)
Command Line Interface (CLI)	SSH (version 2)
SNMP Monitoring	SNMP V1/V2C/V3
SNMP Notification	Trap/Inform
SNMP MIBs	SNMPv2-MIB, IF-MIB, BRIDGE-MIB, Q-BRIDGE-MIB, RSTP-MIB, IP-MIB, UDP-MIB, TCP-MIB, IFOTEC-SMI (rev.202104130000Z), IFOTEC-PRODUCTLIST-MIB

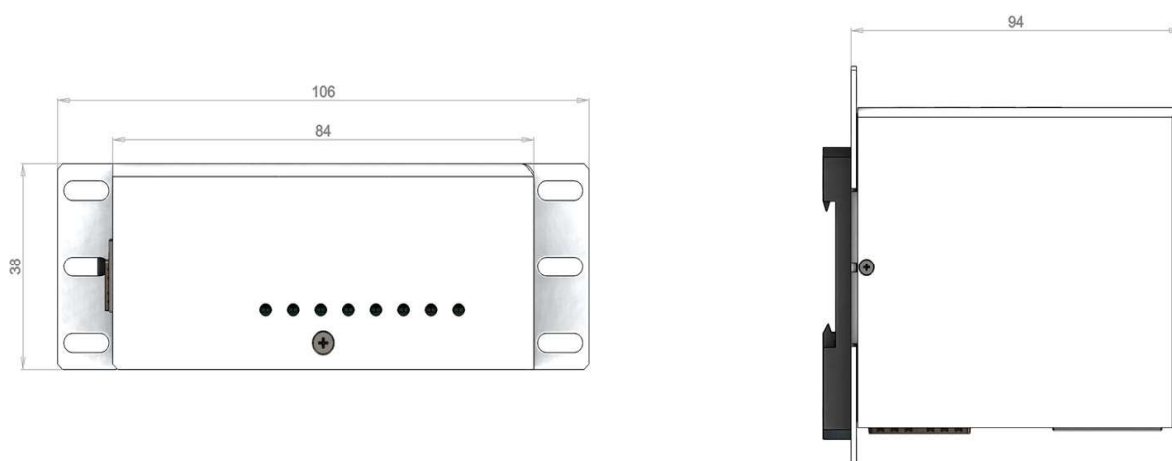
Import/export configuration file via Web server	Yes
Configuration file format	Text file (command line format)
Firmware update management	Yes
Firmware protection by digital signature	Yes
Date/time management via SNTP	Yes
User authentication by RADIUS (CLI / Web)	Yes
<b>Security algorithms</b>	
TLS version	1.2
Supported TLS key types	RSA 2048bits, Elliptic curve ECDSA (secp256r1/secp384r1)
Suites cryptographiques TLS supportées	TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384, TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384
SSH version	SSHv2
Supported SSH key types	RSA 2048bits, Elliptic curve ECDSA (secp256r1/secp384r1)
Supported SSH key encryption algorithms	rsa-sha2-256, ecdsa-sha2-nistp256, ecdsa-sha2-nistp384
Supported SSH key exchange algorithms	diffie-hellman-group14-sha256, ecdh-sha2-nistp256, ecdh-sha2-nistp384
Supported SSH exchange encryption algorithms	aes128-ctr, aes192-ctr, aes256-ctr
Supported SSH HMAC algorithms	hmac-sha2-256, hmac-sha2-256-etm@openssh.com (encrypt-then-MAC)
SNMPv3 Authentication protocols	MD5, SHA-1, SHA-224, SHA-256, SHA-384, SHA-512
SNMPv3 Private protocols	DES, AES
<b>Power supply</b>	
Supply voltage	48 to 57VDC
Electrical isolation	Housing and PCB isolated from the power supply
Max. power consumption	80W (10W + PoE 2 x 35W)
Connector	3-point screw terminal block (5.08 mm pitch)
<b>Physical characteristics</b>	
Housing type	Painted aluminum
Housing dimensions	106 x 94 x 38 mm (L x l x h)
DIN rail mounting	Optional Kit ref. KIT-RD-008
<b>Environmental conditions</b>	
Operating temperature	-20 à +60°C
Storage temperature	-40 à +85 °C
Relative humidity	Relative humidity: 0 to 85 % (not condensed)
Conformal coating option	0 to 95% (consult us)
<b>Standards/Certifications</b>	
<b>EMC &gt; EMI</b>	
EN 55032 : conducted and radiated emission	A Class (Industrial)

**EMC > EMS**

IEC 61000-4-2 ESD	Contact : $\pm 4\text{kV}$
IEC 61000-4-3 RS	80MHz-6GHz : 10V/m
IEC 61000-4-4 EFT	Power supply : $\pm 2\text{kV}$ , Signal : $\pm 1\text{kV}$
IEC 61000-4-5 Surge	Power supply : $\pm 0.5\text{kV}$
IEC 61000-4-6 CS	Power supply : 10V, Signal : 10V

**Guarantee**

Production location and after sales service	Voiron (France)
Guarantee	3 years
Guarantee information	<a href="https://www.ifotec.com/support/">https://www.ifotec.com/support/</a>

**DIMENSIONS****ORDERING INFORMATION**

Reference	Application	Optical connection	Power supply
INET-2GP2GF-AS-101	Gigabit Ethernet transmission for optical networks	According to SFP inserted	48 to 57VDC

## SFP SELECTION TABLE

For more information, see our SFP data sheet

Reference	Number and type of fibres	Transmission	Wavelength (Tx/Rx)	Max. Distance*	Connection
SFPL-1GD31-20	2 single mode optical fibres	1000Base-LX	1310 nm	20 km	LC/PC
SFPL-1GX31-20	1 single mode optical fibre	1000Base-BX-U	1310 nm /1550 nm	20 km	LC/PC
SFPL-1GX49-20	1 single mode optical fibre	1000Base-BX-D	1490 nm /1310 nm	20 km	LC/PC
SFPL-FED31-20-VB	2 single mode optical fibres	100Base-FX	1310 nm	20 km	LC/PC
SFPL-FEX31-20-VB	1 single mode optical fibre	100Base-BX-U	1310 nm /1550 nm	20 km	LC/PC
SFPL-FEX55-20-VB	1 single mode optical fibre	100Base-BX-D	1550 nm /1310 nm	20 km	LC/PC

\* for longer distances please consult us

In line with the company policy of continuous improvement, product specifications are subject to change without prior notice.