# Open Frame 5-port managed Gigabit Switch
## with copper and fiber

## General Description

The MAGBES-20 Family (3rd Gen. of the MPL Switches) consist of models matching your application needs. The five RJ45 ports can alternatively come with lockable headers, up to two of them can be fiber. All ports have status LEDs, indicating the activity and speed of each port, and can also be accessed remote, same applies for reset and default setting.

The Open Frame MAGBES solution is extremely compact and in addition, it can be used in a boxed version with RJ45 or M12 connectors, or in a MIL housing with MIL 38999 connectors of your choice. Supply power is 5–36VDC and uses under any condition less than 4W. Optional, it can be supplied with redundant power or different input voltage. The product can be operated at -20°C to 60°C and optionally even -40°C to 85°C.

For the fiber ports, most Ethernet compatible transceivers (acc. MSA) can be used. It allows the users to select the appropriate transceiver for each link.

As managed switch, the product gives access to various switch settings to configure features like: Quality of Service, VLAN, Rapid Spanning Tree, etc.. To adjust these switch settings, MPL provides an easy to use web interface.
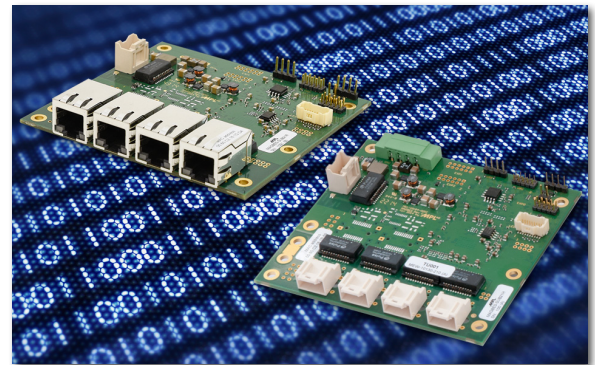
## MAGBES-20 Family Highlights

- Lockable headers for copper ports
- Wide input 5 - 36VDC
- Fully manageable over Web Interface or Telnet
- Copper or mixed Copper/Fiber versions
- Fanless operation
- Versions for –40°C to +85°C environment
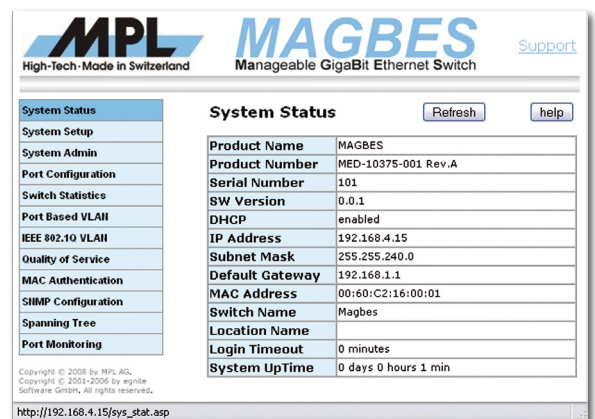- 1588 PTP support

### These features make

the Open Frame MAGBES switch ideally suited for any rugged or industrial network applications. Due to the low power consumption, robust and flexible design, the products are well suited for any embedded system. The MAGBES makes it easy to set up a challenging network!

MPL products are 100% designed and manufactured in Switzerland. All products are fanless, shock and vibration proof, low power, rugged, and long-term* available. The perfect solution for a system to be used in rugged environments.

*Typically 10 years or more, 20+ years repair-ability*

MPL AG is an ISO9001 certified company



**Open Frame** 5-port switch solution



**Web Interface** of MPL MAGBES Management Software



**MIL Version** of the 5-port switch

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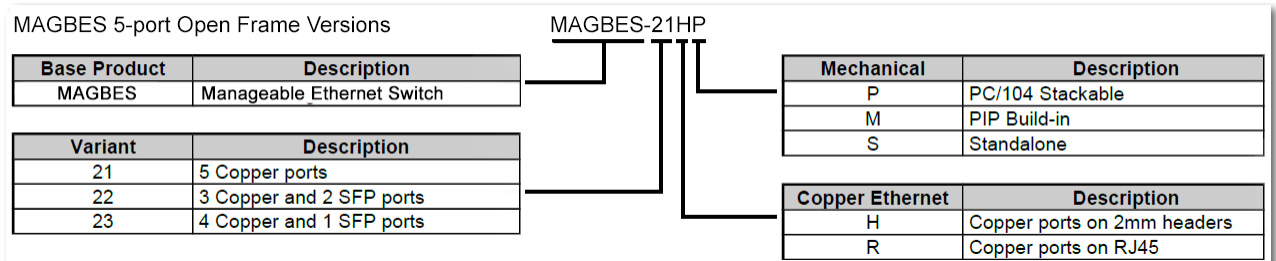Phone +41 56 483 34 34  Switzerland

# Technical Features

## Board Key Data

| | |
|---|---|
| Switch lookup Engine | support up to 1024 MAC entries with automatic learning and aging |
| | supports auto crossover (Auto MDI/MDIX) |
| | support polarity correction |
| Jumbo Frame support | up to 10k Byte |
| Status LED | 2 LEDs for each copper port (Link/Activity and Speed indicators) |
| | 1 LED for each SFP (Link/Activity indicators) |

## Interfaces

| | |
|---|---|
| Up to 5 Ports | 2mm lockable header or high quality RJ45 connectors |
| | 1 x internal on lockable 2mm header |
| Up to 2 Fiber Ports | Supports standard SFP Modules (Single and Multimode) at a data rate 100Mbit and 1Gbit |

## Management Software

MPL developed and maintains a management SW with easy to use web interface.

Management supports:
- Port Based VLAN
- Quality of Service
- IEEE 802.1D RSTP support
- SNMP V1, V2c, V3 support
- Telnet
- IGMPv3 snooping

- IEEE 802.1Q VLAN
- IEEE 802.1X MAC Address Checking
- Port monitoring
- Firmware Update via HTTP or TFTP
- TLS (HTTPS)
- gPTP (1588 PTP support)

## Power

| | |
|---|---|
| Input voltage | 5VDC- 36VDC Input range,     input over 4-pin power connector |
| Power consumption | Typically 4W |

## Environment

| | |
|---|---|
| Storage Temperature | -45°C to 85°C (-49°F to 185°F) |
| Operating Temperature | -20°C to 60°C (-4°F to 140°F) at full operation |
| | optionally -40°C to 85°C (-40°F to 185°F)  at full operation |
| Relative Humidity | 5% to 95% none condensing |

## Standard Compliance

The MAGBES is designed to meet or even exceed the most common standard Particular references are:

| | |
|---|---|
| EMC | EN 55022, EN 55024, EN 61000, MIL-STD-461E |
| Shock & Vibration | EN 60068 |
| Environmental & Safety | EN 50155, MIL-STD-810-F, EN 60601, EN 60950 |
| Approval List | CE, IEC 60945, IACS E10 |

The MAGBES Family has been successfully tested according EN50155, MIL-STD-810-G as well as CE marking

## Packaging

| Chassis version | length | | width | | heights | weight | |
|---|---|---|---|---|---|---|---|
| 5-port Open Frame | 90.2 | x | 95.9 | x | 15.4 mm | 90g | PC/104 size |

MAGBES 5-port Open Frame Versions          MAGBES-21HP

| Base Product | Description |
|---|---|
| MAGBES | Manageable Ethernet Switch |

| Variant | Description |
|---|---|
| 21 | 5 Copper ports |
| 22 | 3 Copper and 2 SFP ports |
| 23 | 4 Copper and 1 SFP ports |

| Mechanical | Description |
|---|---|
| P | PC/104 Stackable |
| M | PIP Build-in |
| S | Standalone |

| Copper Ethernet | Description |
|---|---|
| H | Copper ports on 2mm headers |
| R | Copper ports on RJ45 |

## Options

- Redundant power input
- Galvanic isolation

- Different power input range
- Coating and bonding

**MPL**
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