

Rugged Industrial Gigabit Firewall/Router

General Description

The GUARD-F1 expands the MPL Networking product range with a rugged Industrial Gigabit Firewall and VPN Router. The GUARD-F1 comes with 3 Gigabit Ethernet interfaces. Two of them are either available as copper or SFP ports and one is available as copper port. The specifically designed GUARD housing allows to operate the Firewall in harsh environments without the need of fans or ventilation holes and can easily be mounted on a 35mm DIN rail or wall. The compact housing offers sufficient space to add a MAGBES (Managed Gigabit Switch) or other peripherals. GUARD-F1 can be tailor made to your needs – even with IP67 housing and MIL connectors.

GUARD-F1 Highlights

The operation temperature range is from -20°C to +60°C and optionally even -40°C to +85°C without fan or case openings. The capability to offer copper as well as SFP ports for various fiber optical solutions make the product universal. The internal miniPCIe slot allows various extensions (WLAN, GPRS...). Additional available: an external USB connector and a microSD Memory Card Slot for easy logging and/or configuration capabilities. The GUARD-F1 can be customized over an optionally back-plane for additional interfaces; 2 SATA Ports, 3 USB Ports, 2 PCI express Ports.

- Wide Input voltage range (8 – 36VDC)
- 3x 1Gbit Ethernet ports, two can be used either as RJ45 or as SFP port
- Supports SFP Modules which conform to the SFP Multi Source Agreement (MSA)
- 100Base-FX or Gigabit Ethernet compatible (Single and Multimode)

These features make

the GUARD-F1 to the ideal solution for all rugged industrial and defense applications, where security, quality, reliability, low power consumption, and long-term availability are key. The GUARD-F1 can be used just to name a few; for remote monitoring and maintenance, secure communication in automation, etc..



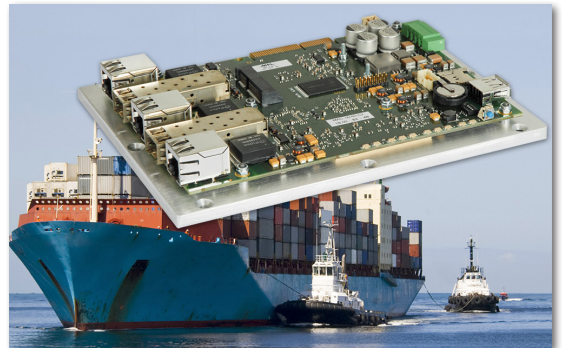
All MPL products are 100% designed and manufactured in Switzerland.



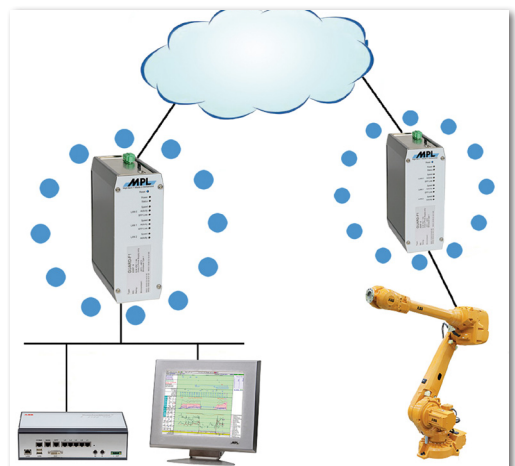
GUARD in industrial environment



MIL version of GUARD



Open-Frame version used in maritime environment



MPL AG is an ISO9001 certified company

Technical Features

| | | |
|--|---|--|
| Board Key Data | | |
| Processor | RISC SoC 1.2GHz | Low Power CPU |
| Memory / Firmware | 512MByte DDR2 / 512MByte NAND Flash | Soldered OnBoard |
| Interfaces | | |
| 1 x Ethernet | 10BaseT / 100BaseTX / 1000BaseTX | 1 x RJ45 connector, auto negotiation, auto MDI MDIX |
| 2 x Ethernet | 10/100/1000TX or 100/1000FX SFP | 2 x RJ45 connector or 2 x SFP slot |
| 1 x USB2 | 1 external port | Type A connectors, ESD protected |
| 1 x microSD Slot | For microSD Memory Card | Can be used as external storage (config, logging) |
| Mini PCI-Express | For WLAN, GPRS, UMTS, etc. | Minicard Slot |
| Physical / Power | | |
| Chassis | Compact rugged chromated Aluminum with stainless steel plates, no ventilation holes | |
| Size & Weight | 62.1 x 162.1 x 118 mm | 0.94kg / 2lb including housing |
| Power | 8 – 36VDC | Power consumption < 9 W, reverse polarity protection |
| Environment | | |
| Temperature Range | -20°C to +60°C optionally -40°C to +85°C | No fan, no openings, values at full CPU load |
| Humidity | 5% - 95% none condensing | Optional coating available |
| Standard Compliance | | |
| The GUARD-F1 is designed to meet or exceed the most common standards. Particular references are: | | |
| EMC | EN 55022, EN 55024, EN 61000, MIL-STD-461E | |
| Shock & Vibration | EN 60068 | |
| Environmental & Safety | EN 50155, MIL-STD-810G, EN 60601, EN 60950 | |

Software

The GUARD-F1 comes preinstalled with an adapted version of OpenWrt (www.openwrt.org). This Linux based embedded distribution provides all functionality required for operation as IPV4 and/or IPV6 firewall and router. The vast amount of additional packages available in conjunction with MPL support allows you to create a solution for every routing or firewall project.

Most of the configuration of the firmware installed can be done using a web based interface. For more specialized requirements, a console based configuration utility is available. All configuration is stored on the device in a human friendly text format and can be modified using a text editor, too.

Functions and protocols:

- TCP/IP V4 and V6, IPsec
- QoS (Quality Of Service) capable
- SIIT (IPV4-over-IPV6 translation)
- Miredo/Teredo (IPV6 over IPV4 tunneling)
- PPP (Point-to-Point Protocol)
- Network address translation
- Multi WAN Setup (failover and load balancing)
- DHCP Server for IPV4 and IPV6
- DNS server/forwarder
- Support for dynamic DNS providers
- OpenVPN support
- OpenConnect client support
- Firewall based on Linux iptables
- SSH and telnet device access
- Snort (lightweight intrusion detection)
- Routing daemons (OSPF, RIP, BGP, ...)

Further functionality can be installed using a package repository that contains more than 2000 precompiled applications ready to install. A software development kit (SDK), allowing to implement customer specific applications, is available as well.

Internal GUARD-F1 Expansions

- MAGBES-20 Family
- 4-port manageable switch (copper or fiber)
- 4-port manageable switch (2x RJ45 & 2x SFP)

Options

- Wall mounting instead of DIN-Rail
- Heavy duty housings with MIL connectors
- Extended temperature / coating / customized versions

Versions

Please check out our homepage <http://www.mpl.ch> for the different available versions of the GUARD.

MPL AG is an ISO9001 certified company



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