

GUARD-F12

EN50155 certified Firewall / Router

General Description

The GUARD-F12 is EN50155 Class Tx certified for the use in railways applications. It is an expansion of the existing GUARD product range. The GUARD is designed by MPL to be used as Industrial Gigabit Firewall and VPN Router. The GUARD-F12 comes with 3 Fast Ethernet interfaces and with M12 connectors, ready for industrial and railways applications. 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, in a rack, or on a wall. The compact housing offers sufficient space to add other peripherals. The GUARD-F12 can be customized for customer specific applications or uses.

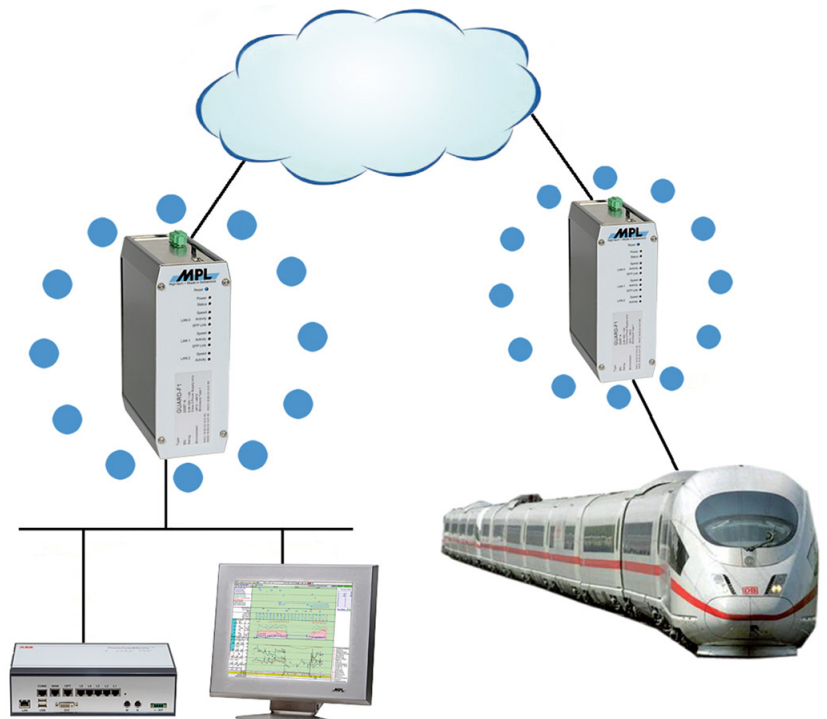
GUARD-F12 Highlights

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 internal miniPCIe slot allows various extensions (WLAN, GPRS...). Additionally available is an external USB connector and a microSD Memory Card slot for easy logging and/or configuration capabilities.

- Wide Input voltage range (8 – 36VDC)
- 3 Fast Ethernet ports
- M12 connectors
- USB and SD interface (optional)
- Optionally with 3 GigE ports

These features make

the GUARD-F12 to the ideal solution for all rugged industrial, railways and defense applications, where security, quality, reliability, low power consumption, and long-term availability are key. The GUARD-F12 can be used just to name a few; for remote monitoring and maintenance, secure communication in automation, etc..



Technical Features GUARD-F12

Board Key Data

Processor	RISC SoC 1.2GHz	Low Power CPU
Memory	512MByte DDR2	Soldered OnBoard
Firmware	512MByte NAND Flash	Soldered OnBoard

Interfaces

3 x Ethernet	10BaseT / 100BaseTX (optional 1000BaseTX)	3 x M12 connector, auto negotiation, auto MDI MDIX
1 x USB2 (optional)	1 external port	Type A connectors, ESD protected
1 x microSD (optional)	For microSD Memory Card	Can be used as external storage (configuration, logging)
Mini PCI-Express	WLAN, GPRS, UMTS or similar expansions	Minicard Slot

Physical / Power

Chassis	Compact rugged chromated Aluminum with stainless steel plates	DIN-rail or flange mounting, 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
Temperature Range	-20°C up 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-F12 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 certified, MIL-STD-810-F, EN 60601, EN 60950

Software

The GUARD-F12 comes pre-installed with an adapted version of OpenWRT (<http://www.openwrt.org>). This Linux based embedded distribution provides all functionality required for operation as IPV4 and/or IPV6 firewall and router. 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.

Functions and protocols:

- TCP/IP V4 and V6
- IPsec
- QoS (Quality Of Service) capable
- 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)
- Avahi (aka RendezVous/Bonjour/ZeroConf) support

Options

- Wall mounting instead of DIN-Rail
- Heavy duty housings (MIL IP67) with MIL connectors
- GigE support
- Extended temperature / coating
- Customized versions and expansions

GUARD-F Versions

GUARD-F12	Rugged Industrial Firewall/Router with 3 Fast Ethernet ports on M12 connectors, pre-installed OpenWRT embedded Linux distribution. For Railways with EN50155 Class Tx Certificate.
GUARD-FS1	Rugged Industrial Firewall/Router with 2 Gigabit Ethernet ports (2 x RJ45 and 2 x SFP slot), and a 4 port switch (MAGBES-13) with 3 RJ45 and one SFP port, preinstalled OpenWRT embedded Linux distribution.
GUARD-F1	Rugged Industrial Firewall/Router with 3 Gigabit Ethernet ports (1 x RJ45 and 2 x RJ45/SFP slots), pre-installed OpenWRT embedded Linux distribution.
GUARD-Cx	GUARD Solution assembled & mounted according the customer needs & requirements (e.g. with special housing, depopulated parts, installing a customers application,)

