mGuard Family

Get connected – Get protected

PHOENIX CONTACT
INSPIRING INNOVATIONS

mGuard product family

Security and connectivity solutions for any industrial machinery application

Companies are only successful when their production systems operate securely, without errors. Failure, sabotage, or data loss can cause large-scale economic damage.

To avoid these problems, Phoenix Contact offers the mGuard: efficient and easy-to-integrate protection for networked industrial systems. The mGuard is a reliable solution for secure remote support or maintenance of industrial machinery and equipment.

Our mGuard family provides rugged and industrially rated security devices including firewalls, routing, and optional VPN functionality for industrial networks. These high-level “Layer 3” functions are essential for protecting your industrial network from both malicious attacks and accidental interruption. They are also ideal for connecting to office or enterprise networks.

VPN (Virtual Private Network)

Secure and easy remote maintenance enables you to save on travel costs and shorten downtime, as well as improve service quality and customer loyalty. mGuard devices are VPN-compatible: All data is encrypted according to the secure IPsec standard. Access to the remote maintenance VPN tunnel is monitored and controlled by a firewall. In addition, machines and systems can be conveniently and easily networked using the extensive routing functions.

Cellular

When sites are located in areas where a physical connection is difficult to obtain, the mGuard can provide connectivity via cellular networks around the world.

The TC mGuard supports Verizon, AT&T, and international cellular carriers utilizing the latest 4G LTE technology. Utilizing carrier networks, you can access your remote sites easily and securely.

Powerful firewall

mGuard devices are integrated into the network as a stand-alone system where they protect a part of the system network, a complete production cell, or an individual automation component – with no adverse effect on the system being protected. All incoming and outgoing data packets are monitored using pre-defined rules. These mGuard devices have a built-in stateful firewall for local device protection and Deep Packet Inspection (DPI) firewalls for some popular industrial protocols.

COMSERVER

In the industrial space, un-networked legacy systems are still very common. The built-in COMSERVER functionality allows access to serial devices using the RS232 interface, even over the mGuard Secure Cloud.

Router

mGuard can be used in router mode to isolate an office network from a control network, regulating the traffic that is passing through.

NAT (Network Address Translation) router

When identical machines are in a network in parallel, each machine must be configured individually so that it can be integrated in the higher-level communication system.

Our mGuard products support the 1:1 NAT function, which means that production cells occupying an identical IP address can be used in a higher-level network. The individual configuration of standard machines is not required, saving time and making support easier.

mGuard product family

FL mGuard RS

RS2000 TX/TX VPN	**2700642**
RS4000 TX/TX	**2700634**
RS4000 TX/TX VPN	**2200515**

The FL mGuard RS4000 is a security appliance with an intelligent firewall and optional IPsec VPN (from 10 up to 250 tunnels). It has been designed for industrial use to accommodate strict distributed security and high availability requirements. It is approved for Class I, Division 2 hazardous locations.

The FL mGuard RS2000 is a security router with a basic firewall and integrated IPsec VPN (maximum of two tunnels). Its scope of functions is reduced to the essentials and it is suitable for secure remote maintenance applications in industry.

Both versions have high temperature specs (-20°C to +60°C), a replaceable configuration memory (SD card), and configurable hardware switch/button contact for the VPN, all within a fanless metal housing mounted on a DIN rail.

FL mGuard RS + Switch

RS2005 TX VPN	**2701875**
RS4004 TX/DTX	**2701876**
RS4004 TX/DTX VPN	**2701877**

The FL mGuard RS4004 and RS2005 appliances combine the powerful new mGuard hardware platform with our reliable mGuard 8.x firmware. Adding the integration of a five-port unmanaged switch (the RS2005) or a four-port managed switch (the RS4004), respectively, the new mGuard provides cost savings by integrating the switch hardware and simplifies connecting to a number of end devices, as well as expanding the use cases with a DMZ port.

The RS2005 integrates a five-port unmanaged Ethernet switch, with automatic detection of data transmission speed of 10 or 100 Mbps (RJ45) and auto-crossing function. This is the equivalent of adding an FL SFNB 5TX unmanaged switch right into the mGuard.

The RS4004 integrates a four-port managed switch, enabling a flexible and cost-effective option for multiport security applications in Ethernet networks. Its four-port switch also includes management capability with features such as port mirroring, VLAN segregation, and IGMP snoop and query. *(Note: The mGuard RS4004 does not support STP, RSTP, or fast ring layer-two redundancy.)*

TC mGuard 4G LTE

AT&T RS2000 4G LTE	**1010464**
AT&T RS4000 4G LTE	**1010463**
VZW RS2000 4G LTE	**1010462**
VZW RS4000 4G LTE	**1010461**
INTL RS2000 4G LTE	**2903588**
INTL RS4000 4G LTE	**2903586**

The TC mGuard family provides all the benefits and features of the FL mGuard family, while adding the ability to connect to cellular networks. It is ideal for tough environments, including Class I Division 2 for hazardous locations, as well as a wide temperature range (-40°C to +60°C). Both versions support connectivity to serial devices, a four-port switch, and GPS capabilities.

SMS support is one of this product's strongest features, allowing you to monitor certain digital alarms and obtain text messages based on input changes. It provides SMS functionality based on other alarms, such as loss of network connection via wired interface (only TC 4000), VPN status, and other alarm notifications.

The TC mGuard RS4000 focuses on the highest level of availability for the system. It allows for a physical wired connection with failsafe transition over to cellular networks in case of loss of connectivity.

FL mGuard GT/GT

GT/GT	**2700197**
GT/GT VPN	**2700198**

The FL mGuard GT/GT is a router with a stateful inspection firewall and 10 VPN tunnels, with an upgrade option up to 250 tunnels. It comes with 10/100/1000 transmission speeds, RJ45 and SFP ports that are used to connect to both single and multi-mode fiber. It offers maximum security and extremely easy configuration, using replaceable configuration memory.

It is Gigabit-capable and uses copper or SFP fiber modules for better performance and speed. If a specific port is being used, the second one will be disabled.

The GT/GT firmware and functionality are the same as RS and PCI and include marine standard approvals (GL, DNV, LR and ABS).

FL mGuard PCI

PCI4000	**2701274**
PCI4000 VPN	**2701275**
PCIE4000 VPN	**2701278**

The mGuard PCI is currently the only PCI-compliant security device that unites all required security functions (router, firewall and VPN) in a single component. It can be integrated quickly and easily, without modifications to the system settings or driver installation, regardless of the processor technology and operating system used.

Phoenix Contact's Valueline is a family of configurable, rugged and fanless industrial PCs with optional PCI slots. Implementing the mGuard PCI4000 variant with the Valueline creates a synergistic solution that reduces power needs and saves space on the DIN rail, while providing cost-effective security and connectivity at the same time.

In power-over-PCI mode, an existing network card in the computer or another computer/network can be connected. Temperature specs range from 0°C to +70°C.

FL mGuard Smart2

Smart2	**2700640**
Smart2 VPN	**2700639**

The FL mGuard Smart2 is the smallest device version. It can be easily inserted between the computer or a local network and an available Internet connection without making configuration changes or performing driver installations on the existing system. It is designed for instant use in the office or when traveling. Temperature specs range from 0°C to 40°C.

With its sturdy housing and uncomplicated power supply via any USB port, the mGuard Smart2 is perfectly suited for the portable protection of company-critical resources. Changes to the location and the infrastructure can be performed quickly and at low cost.

FL mGuard Delta

Delta TX/TX	**2700967**

The FL mGuard Delta combines exceptional security and performance in a stable and compact desktop metal housing. Mission-critical computers, machines, and entire networks are reliably protected and safe from attack.

The Delta is perfectly positioned:

- As an intelligent firewall between office and product networks
- As a VPN receiver in an OEM office
- As a security router for small and medium-sized workgroups

The mGuard Delta is well suited for protecting workplaces and environments close to production, with low requirements for industrial hardening. The device can be upgraded to add 10 VPN tunnels, up to 250 through a license. Temperature specs range from 0°C to +40°C, powered by 120 V AC.

FL mGuard Centerport

FL mGuard Centerport	**2702547**

The FL mGuard Centerport is a datacenter infrastructure rack-mounted (19"/1U) high performance security appliance with optional IPsec VPN and OpenVPN (Up to 3000 tunnels with additional license). Ideal for customers working with their IT department to deploy their own VPN solution. Best suited as a VPN hub for bigger applications.

TC Cloud Client (mGuard Secure Cloud Only)

TC Cloud Client 4G AT&T	**2702888**
TC Cloud Client 4G VZW	**2702887**
TC Cloud Client 4G INTL.	**2702886**
TC Cloud Client TX/TX	**2702885**

TC Cloud Client devices are industrial virtual private network (VPN) gateways approved for use on Ethernet or 4G LTE cellular networks through Verizon or AT&T.

The TC Cloud Client is designed to easily, affordably, and securely provide connectivity to remote networks through the award-winning mGuard Secure Cloud.

Simply create a configuration for the TC Cloud Client on the mGuard Secure Cloud and get connected to any remote device within minutes.

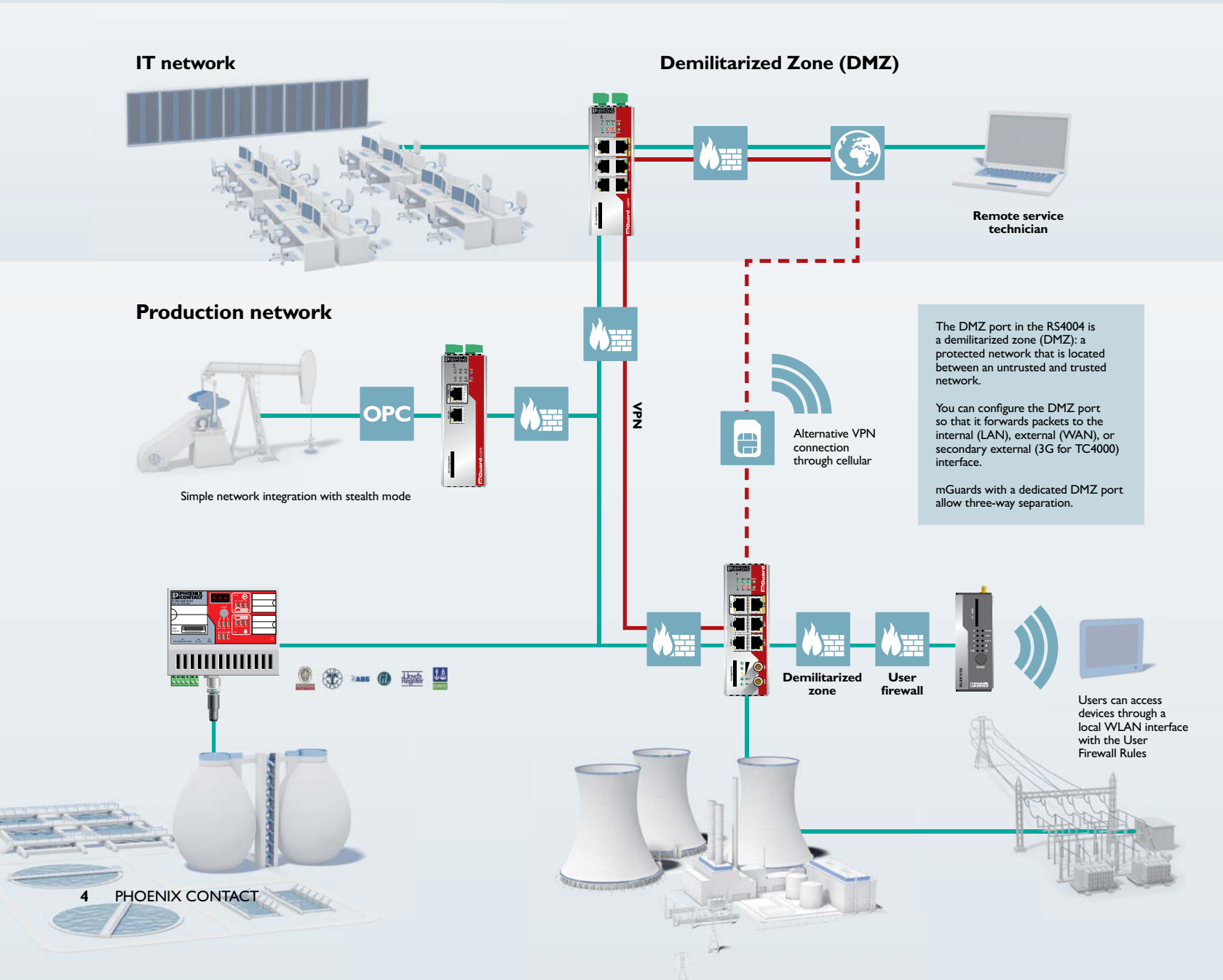
mGuard application scenarios

Protect your industrial networks

The mGuard can be used to protect individual components or an entire production cell. In stealth mode, the mGuard can be installed in the network with no changes necessary to the end devices. It can also be used as a router to protect and segment the industrial network away from the office network.

With the RS4000, additional granularity in firewall rules, as well as user-firewall function, allows you to control access to your network, regardless of the IP address from which the traffic is coming.

The mGuard OPC Inspector Deep Packet Inspection (DPI) firewall keeps track of all OPC Classic connections and ports being used. It dynamically creates firewall rules matching the ports and directions used. Also, it identifies and blocks all non-OPC-related traffic.



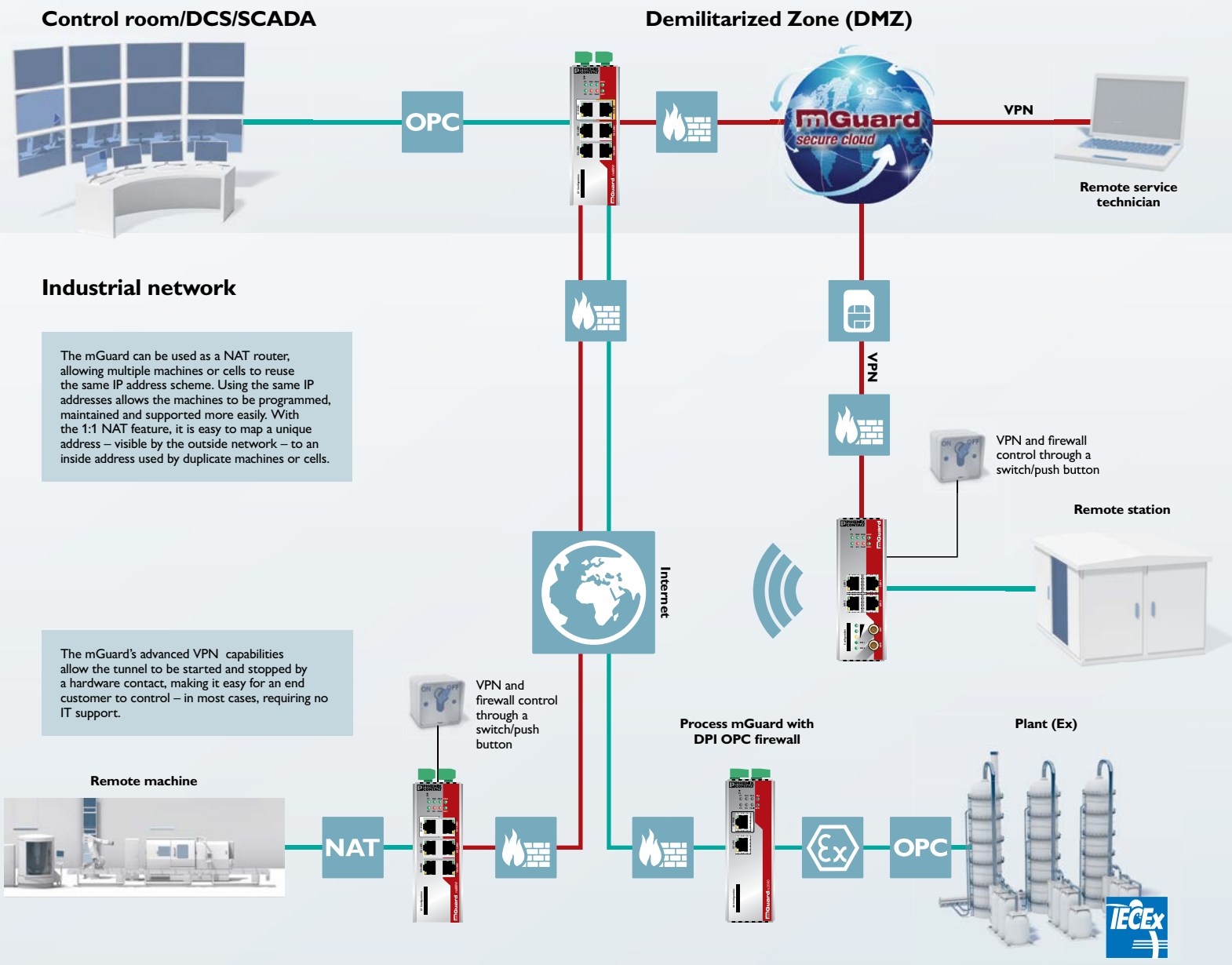
Connect your industrial networks

The mGuard can be used to establish Virtual Private Network (VPN) tunnels between different locations over the Internet, securing all data according to the secure IPsec standard.

The VPN allows OEM technicians, for example, to talk to their machines from the end customer's location: uploading program changes, pulling data, and performing troubleshooting and diagnostics. This allows for better support, reduces travel costs and downtime, and improves service quality and customer satisfaction.

The mGuard can be used either as a point-to-point solution or in our free mGuard Secure Cloud infrastructure for easy support to end customers.

To learn more, visit: **www.phoenixcontact.com/msc**
To register, visit: **www.us.cloud.mguard.com**



mGuard Secure Cloud

Your passport to support

Phoenix Contact's mGuard Secure Cloud offers operators and machine builders a highly secure, web-based method for instant remote services to any machine and remote location.

The mGuard Secure Cloud is a professionally hosted, turnkey remote services ecosystem for both the machine builder and the production plant operator.

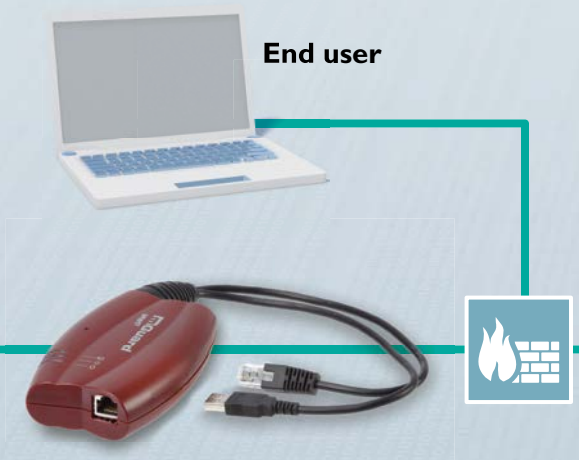
Using a standard web browser, service personnel can log in to the mGuard Secure Cloud website and, after successfully authenticating, access all relevant client information: locations, operators, machines, and users, as well as their access rights. A quick overview of all machines currently online is also made available with the click of a button; remote access to a site is established, allowing you to provide support, modify programs, etc.

Features and benefits

- **Free industrial VPN service for OEM and machine builders in the Americas**
- **The only requirements are to have an mGuard device at the remote machine and approved software or hardware at the technician side**
- **Access total control of remote locations and customer machines in just a few clicks**
- **Immediate configurations upon request**
- **IPsec VPN (Virtual Private Network) is an accepted and highly secure IT standard**
- **Save on the cost of travel while providing superior 24/7 support and service**
- **Identify and solve complex problems remotely, provide program updates, ease commissioning of new equipment**
- **Easy configuration via provided SD card**
- **Maintain regular contact with machinery in the field**

Software supported:

- **mGuard Secure VPN Client: The new mGSVC is a Phoenix Contact IPsec client compatible with all mGuard firmware and developed for use with the mSC. The mGVSC supports advanced network capabilities, such as proxy settings and TCP encapsulation.**



Is it simple?

Implementing and operating an industry-standard remote services solution can be a complex task.

The cloud-based mGuard Secure Cloud remedies this situation, with a turnkey system for industrial remote services for utility operators, machine builders and plant technicians.

Setup takes place in a few easy steps with hardware configuration provided.

Easy-to-use mGuard Secure Cloud allows fast and highly secure access to all machines in the connection.

Is it secure?

The mGuard Secure Cloud forms a powerful infrastructure in the cloud, securely interconnecting service staff with machines and plants via the Internet.

The mGuard VPN technology uses the IPsec security protocol with AES-256 encryption.

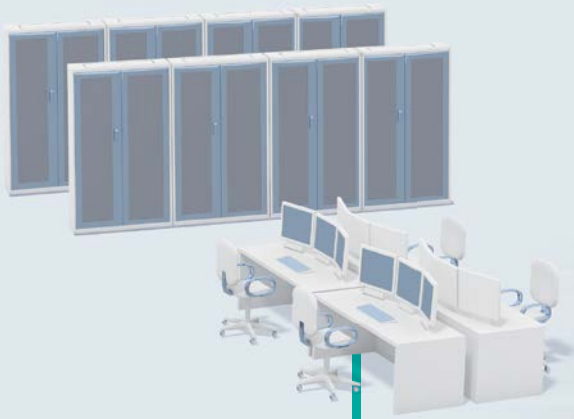
The mGuard guarantees the confidentiality, authenticity and integrity of all information and data transmitted between the service staff and the machines.

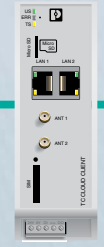
Is it reliable?

To ensure success in today's competitive global environment, companies are subject to ever stronger innovation and cost pressures.

For smaller, medium-sized or highly specialized companies with smaller machine volumes, it is almost impossible to run an efficient in-house remote service solution at a reasonable cost and with high reliability, but their success requires it.

The mGuard Secure Cloud servers are housed in a state-of-the-art data center with 24/7/365 monitoring. This ensures maximum reliability to support your machines and your customers.





Register today: **us.cloud.mguard.com**

mGuard in vertical industries

Anyone searching for industrial protection and remote support can utilize the mGuard from Phoenix Contact. Whether the industry has compliance requirements or simply needs to be secure, the mGuard's capabilities and features will allow you and your industry to achieve those standardized goals.

The mGuard serves OEMs, especially industrial machine builders and general manufacturers, with a large variety of end-users.

It's also ideal for critical infrastructure sectors like:

- **Water/wastewater –** providing security for remote pump and lift stations, allowing integrators secure monitored access to supported equipment
- **Power generation/transmission –** providing drop-in protection for legacy equipment with wide temperature ratings for rugged environments, as well as logging/auditing capabilities to monitor the network, which are essential to NERC-CIP compliances
- **Oil and gas –** with UL CID2 approval, the mGuard provides network security for the pipeline and custody transfer points

Any mGuard version can be implemented in all critical infrastructure markets. Attached are some success stories.

For more information, please visit:
www.phoenixcontact.com/mguard
www.phoenixcontact.com/cellular

Please visit us on the web for more information about:

- Product features
- Additional licenses
- Ordering information
- Case studies and white papers

www.phoenixcontact.com/mguard

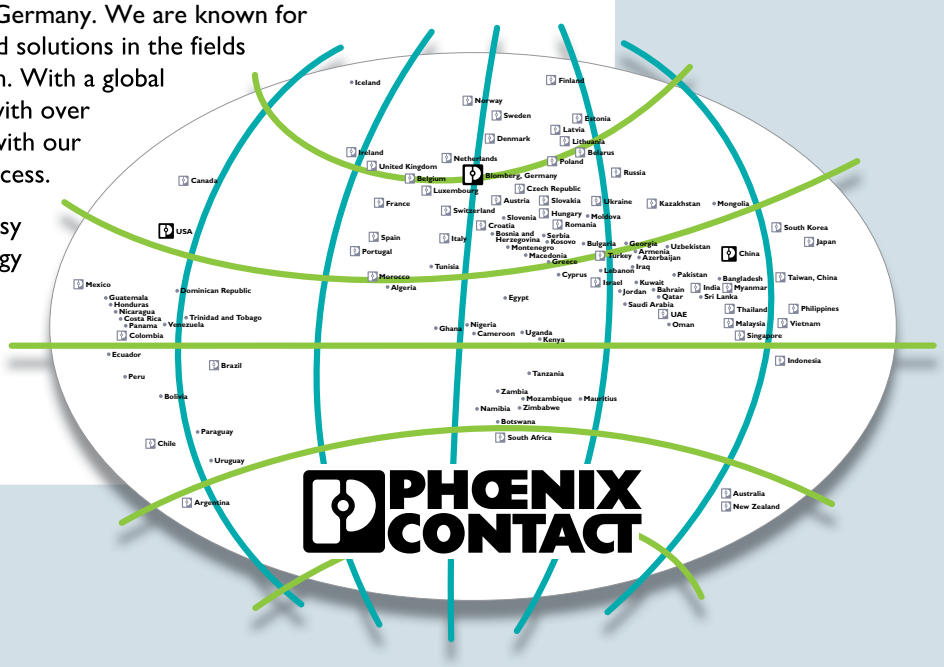
www.phoenixcontact.com/cellular

www.phoenixcontact.com/msc

Open communication with customers and partners worldwide

Phoenix Contact is a global market leader based in Germany. We are known for producing future-oriented components, systems, and solutions in the fields of electrical engineering, electronics, and automation. With a global network reaching across more than 100 countries with over 14,500 employees, we maintain close relationships with our customers, something we believe is essential for success.

Our wide variety of innovative products makes it easy for our customers to implement the latest technology in a variety of applications and industries. We focus on developing the fields of energy, infrastructure, process and factory automation.



You will find our complete product range at:

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