

# R&S®SITLINE ETH NG

The main pillars of processes in companies and public authorities are digital. At the same time, data security requirements have risen due to increased cybercrime, IT security vulnerabilities and espionage. As a key element of IT security, layer-2 encryption provides basic protection for network communications between different locations.

Analog paperwork security, especially in the environment of public authorities, must be replaced by digital security. Unlike paperwork, digital documents move on paths that are faster but more difficult to control. Certified solutions are needed that meet the highest demands for security, efficiency and performance.

## Security made in Germany – 30 years of certified cryptographic competence

R&S®SITLine ETH NG is a solution approved by the Federal Office for Information Security (BSI) up to VS-NfD (RESTRICTED), NATO RESTRICTED and RESTREINT UE/EU RESTRICTED classification level. These Ethernet encryptors provide "Security Made in Germany". With 30 years of cryptographic competence, Rohde&Schwarz Cybersecurity is one of the pioneers in the field of network encryption. We offer state-of-the-art cybersecurity with advanced cryptographic methods and standards (elliptic curves, AES-256, X.509 certificates and QKD – Quantum Key Distribution). A special feature is that the entire hardware and software production process is in the hands of Rohde&Schwarz Cybersecurity.



Product Flyer  
Version 03.00

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Make ideas real



## Low system costs and investment protection combined with high performance

R&S®SITLine ETH NG is a future-proof and scalable security solution. System costs and operating expenses are kept low by high transmission rates from 10 Mbit/s up to 4 x 10 Gbit/s with up to four independent lines at the same time, along with low overhead and energy costs.

## Basic protection with layer-2 encryption

Employees are a major security factor. Potential human errors are a risk. R&S®SITLine ETH NG gives you application-independent and user-independent basic protection. Communications inside the company are fundamentally secure, even if, for example, the wrong security level is chosen for email transmission. With R&S®SITLine ETH NG the entire content is already encrypted in layer-2.

## Professional security in tune with the times

The Metro Ethernet standard is based on reliable and future-proof technology. R&S®SITLine ETH NG has been developed in accordance with this standard. All Ethernet services (private lines to the LAN service) are safeguarded.

- ▶ **Customary network functionality:** Innovative group encryption for multicast and broadcast topologies provides extremely high security without sacrificing network functions and performance. Ethernet encryption is invisible for all types of applications.
- ▶ **Secure authentication and key agreement:** Each link setup starts with secure and automatic authentication of the partners. Our central security management system (SMS) smoothly handles certificates and symmetrical key exchange.
- ▶ **High security with maximum speed and throughput:** Symmetrical encryption of the payload (AES-256) is performed in standalone, independent hardware modules with full utilization of available line bandwidth.
- ▶ **Tamper-proof devices:** Our hardware is highly secure. This includes the memory, mechanisms for protection against mechanical tampering, secure boot functions and much more.
- ▶ **Future-oriented:** Our active involvement in research and development projects for QKD and PQC (Post-Quantum Cryptography) enables the further development and implementation of these functions in our solutions, even in already installed devices.

## Future-proof investment with low TCO

With R&S®SITLine ETH NG you are investing in a future-proof security solution with low total cost of ownership.

- ▶ **Little network-specific configuration required:** As a plug & play technology, Ethernet requires almost no configuration effort to get started. This saves installation time and expenses.
- ▶ **Low space and energy costs:** The compact design, low module height and different device classes make it possible to save both installation space and energy.
- ▶ **No additional expenses for central or internal key servers:** The symmetrical main and session keys required for operation are negotiated and distributed fully independently by the R&S®SITLine ETH NG devices.
- ▶ **Low maintenance and service requirements:** Ethernet operates independently of the logical IP network structures. This eliminates the need for adaptations when integrating new applications, changing providers or migrating between higher-level network protocols (e.g. from IPv4 to IPv6).

## Central security management for high user friendliness

R&S®Trusted Objects Manager is the SMS for R&S®SITLine ETH NG. The server acts as a certificate authority (CA) in a public key infrastructure (PKI) and is operated in a secure environment (data center with access control). The client service is a web browser and runs on the administrators' workstation computers.

## Separate network management

Network settings on R&S®SITLine ETH NG devices can be configured using the simple network management protocol (SNMP). The devices also provide data for monitoring and diagnostic capabilities via SNMP.

## Product versions

### R&S®SITLINE ETH-S

Experience full bandwidth on a 1 Gbit/s or 10 Gbit/s line (depending on the variant) in full duplex operation – regardless of the packet size to be transmitted.

### R&S®SITLINE ETH-L

High-end Ethernet encryptor for extremely high bandwidth up to 4 x 10 Gbit/s combined with unsurpassed data security.

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