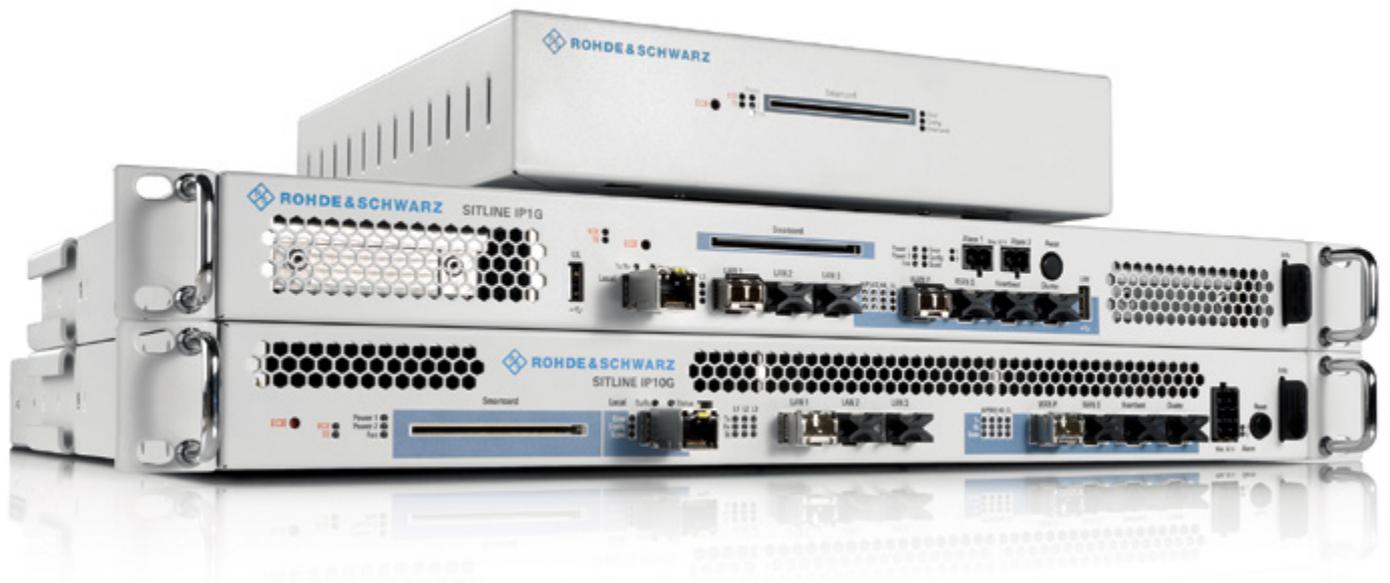# R&S®SITLine IP

Encryption for high-performance IP networks of up to 10 Gbps

The R&S®SITLine IP product line protects sensitive data of enterprises and authorities against espionage and manipulation. Authorized for securing VS-NfD (for official use only) classified data, the devices encrypt IP traffic without compromising the line speed.

Protecting digital business processes

Wide area networks (WAN) are a central element of enterprises' and authorities' communication. Interconnecting different sites, they enable data exchange across an entire organization. At the same time, the number of data-based business processes and the requirements for their capacity and real-time capabilities are rapidly increasing. While digitalization and open network communication are clear advantages, WANs pose the challenge of protecting data transmission and production processes against cyberattacks. If they are not properly protected, production processes can be seriously affected, thus leading to financial damages, competitive disadvantages or the loss of intellectual property.

ROHDE & SCHWARZ
Cybersecurity

Encryption at line speed without limiting network intelligence

R&S®SITLine IP combines a unique encryption method with a hardware suited for maximum efficiency. This allows for maximum throughput while the latency is kept to a minimum, regardless of the number and size of the IP packets processed. All product variants are able to encrypt at line speed even with a constant packet flow of minimum-size 64-byte packets. This prevents the line from suddenly collapsing even if VoIP or multi-media applications are used extensively. Other than conventional WAN encryption technologies, R&S®SITLine IP maintains network intelligence without impairing Quality of Service, rerouting or real-time functionalities.

Resilient and more powerful wide area networks

The R&S®SITLine IP encryption devices beat IPsec-based products in several ways. Managing numerous IPsec tunnels requires a large amount of resources. The R&S®SITLine IP group encryption functionality works without IPsec, thus solving the biggest problem of complex and fully meshed networks. This allows for resilient, cost-effective and efficient wide area networks and network connection.

Maintaining network intelligence and performance

R&S®SITLine IP encrypts only the payload of IP packets. Essential network management protocols are checked and transmitted unencrypted between the local L2/L3 gateway and the customer edge router. Consequently, the WAN's resilience remains unaffected despite encryption, which allows for split-second reaction to network disturbances.

Low crypto overhead

The R&S®SITLine IP encryption technology requires a significantly lower crypto overhead than IPsec tunnels. Consequently, R&S®SITLine IP makes better use of the port bandwidths, which reduces transmission times, particularly for large amounts of data.

Easy integration and low administration efforts

It is easy to integrate R&S®SITLine IP encryption devices into existing and new IP networks. All product variants combine maximum data security with minimum administration efforts for modern, intelligent and software-controlled networks of authorities and enterprises, while keeping operational costs low.

Overview of the R&S®SITLine IP product variants

R&S®SITLine IP10G	R&S®SITLine IP1G	R&S®SITLine IP100M
Area of application		
For nationwide WAN backbone connections and data center links	For locations with fast 1 Gbps connection	Stand-alone version to protect network connections with a lower performance of 100 Mbps
Network interfaces		
▪ 1 × 10 Gbps line, optical ▪ Port LAN1 to WAN P & WAN S ▪ Optical transceiver (SFP+)	▪ 1 x 1 Gbps line, optical, electrical or optical-electrical (cross media) ▪ Port LAN1 to WAN P & WAN S ▪ Optical or electrical transceiver (SFP)	▪ 1 x 100 Mbps line, electrical ▪ Port LAN1 to WAN P & WAN S ▪ Electrical transceiver (SFP)
Throughput		
▪ GCM, full-duplex ▪ max. 9.9 Gbps	▪ GCM, full-duplex ▪ max. 0.99 Gbps	▪ GCM, full-duplex ▪ max. 99 Mbps
Latency		
max. 0.010 ms	max. 0.035 ms	max. 0.150 ms

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