

SINA[®] L3 Box E 400M

VPN Gateway for Confidential Communication



Benefits:

- » Approved for German national VS-VERTRAULICH, NATO CONFIDENTIAL and CONFIDENTIEL UE/EU CONFIDENTIAL
- » Extended temperature ranges
- » Switchable LWL network interfaces
- » High availability
- » Quality of service
- » Easy to manage

As a VPN gateway, the SINA L3 Box 400M is a key component of the central IT infrastructure in high-security networks. The data exchange between the SINA components is securely transmitted via encrypted VPN tunnels. SINA L3 Boxes connect public authority or corporate networks via the Internet. In addition, access to (terminal) servers by SINA clients is provided via pre-switched SINA L3 Boxes, which serve as cryptographic network access points.

The SINA L3 Box E 400M and its predecessor, the SINA Box S Zone 1 (19", 3 HU), are the only IP-based encryption systems approved for transmitting classified information up to and including German national VS-VERTRAULICH, NATO CONFIDENTIAL and CONFIDENTIEL UE/EU CONFIDENTIAL. The focus is on national and international military and governmental high-security networks.

In direct comparison to the predecessor model, the SINA L3 Box E is significantly more powerful – with bidirectional encryption output of up to 400 Mbit/s – lighter and has a more compact design with 19" 2 height units. The SINA L3 Box E 400M is flexible to use, enabled by qualities such as the extended temperature ranges. With the LWL network interfaces, which can be switched between 100 Mbit and 1 Gbit directly on the device, customers can respond adaptively to changes in the network infrastructure. Another variant of the device supports copper network interfaces. Rechargeable batteries can be replaced with no subsequent brief verification required, making them more service-friendly.

IT security concept

The SINA L3 Box E 400M is based on a holistic IT security concept. It comprises in particular:

- A ruggedized, intensively tested SINA OS system platform
- Smartcard technology
- IPsec-based cryptography
- SINA CORE crypto module as well as
- Hardware, firmware and software that are dimensioned and configured in accordance with approval standards.

Secure system start and operation

Depending on the actual conditions of the IT infrastructure and project-specific communications requirements, it is possible to use SINA L3 Boxes E with several thousand security associations. The SINA L3 Box software is coreboot-protected and loaded by the flash memory during system start. All initial configuration data and security associations for the SINA L3 Box are stored in a protected area of the SINA Smartcard.

When a SINA L3 Box is started, the security associations to the SINA Management and the communications-related SINA L3 Boxes are set up as IPsec VPN tunnels. If necessary, additional security associations or configuration data can be downloaded from SINA Management. This greatly simplifies configuration, installation and hardware replacement with the SINA L3 Box.

High availability

It is possible to increase the availability and reliability of SINA L3 Boxes by means of redundant configurations. This means for example that, in hot standby mode, an automatic switchover triggers a second SINA L3 Box to take on the functions of the failed SINA L3 Box that was previously active without interruption.

Furthermore, SINA L3 Boxes also support geo-redundant and load distribution configurations. With geo-redundant scenarios, alternative communication paths can be prioritised and run via SINA L3 Boxes that are positioned in different locations. With specific load distribution configurations, the SINA L3 Boxes interact with conventional load balancers.

Quality of service

Within SINA, the current software version supports both the setting and forwarding of traffic classes. Examples of such traffic classes are the Internet, VoIP telephony, video conferencing and data traffic.

Satellite communication

Use of SINA L3 Boxes requires IP-enabled transport networks, including satellite communication lines. The available bandwidth of the satellite lines is used effectively in tandem with satellite optimisers.



Systems monitoring

The SINA L3 Boxes log all data related to monitoring during operation. This can be imported into network management systems where it can be processed and/or displayed as required.

Management

The SINA L3 Box is configured and controlled centrally by SINA Management. An integrated public key infrastructure (PKI) with associated user management supports essential administrative processes involving SINA Smartcards. This includes, in particular, their personalization, the generation or updating of keys and cryptographic parameters as well as the administration of the associated PINs and PUKs.

Approval-related construction classes

 SINA L3 Box E 400M Z1 	
Approval	German national VS-VERTRAULICH, NATO CONFIDENTIAL, CONFIDENTIEL UE/EU CONFIDENTIAL
Boot integrity protection	coreboot
Software version	2.2
Manipulation protection	SINA ATC
Emission protection	Zone 1 (SDIP 27 Level B)
Authentication token	SINA Smartcard
Network interfaces	LWL, Cu*

Additional performance data

General data	
Design	19" 2 HU
Weight	12 kg
Power consumption	80 W
Cryptography	
Encryption performance	400 Mbit/s
Symmetrical encryption process	Chiasmus, AES
Asymmetrical encryption process	EC-GDSA, EC-DH
LAN connections	
Network interfaces	4 x 100/1000 Mbit optical fibre (interchangeable) (SB50.25) 4 x 10/100/1000 Mbit Cu (SB50.26*)
Plug type	LC
Adapter cable	from LC to SC or ST (supplied)
Temperature ranges	
Operation	+5 °C to +45 °C
Transport and storage	-25 °C to +60 °C
Miscellaneous	
Service hatch	For rechargeable battery replacement (subsequent short measurement not necessary)

* Use of device variants fitted with copper network interfaces and approved up to and including CONFIDENTIEL UE/EU CONFIDENTIAL requires additional network infrastructure security measures (in accordance with IASG-04-01 and IASG-04-02). The use of nationally approved SINA L3 Boxes E 400M requires LWL network interfaces.

More information:
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