ADVANCED DEFENCE-GRADE 1-10GBPS CERTIFIED ENCRYPTION

CN6000 SERIES

SENETAS

Security without compromise

Senetas CN6000 Series Encryptors – scalable, efficient and certified – maximum protection of network data without performance compromise.

It is often assumed that data networks are inherently safe. They are not. Data networks are vulnerable to security breaches. To be protected from a data network breach, cyber-attack, innocent error, or technical failure, your data must be encrypted. Only when encrypted, can data be safe – rendering it useless to unauthorised parties.

Senetas defence-grade network data encryptors are certified by international, independent testing authorities to protect your data while being transmitted. It's why Senetas encryptors are used by governments and defence agencies in more than 25 countries!

Senetas trusted high-speed encryption technology now puts certified defence-grade encryption within easy reach of organisations with entry-level and "encrypt everywhere" requirements. The CN6010 provides all the CN6000 series platform benefits in a remarkably cost effective encryptor.

ETHERNET SERVICES

Our CN6000 series platforms provide highly secure, full line rate transparent encryption for data moving across both dark fibre and metro, or wide area Ethernet networks in point-to-point, hub & spoke, or any meshed environment.

The intrinsic key generation and distribution capability in our CN6000 Encryptors removes reliance on external key servers, providing a robust, fault-tolerant security architecture. The rugged tamper-resistant chassis also gives uncompromising protection to key material held in the encryptor.

Full interoperability with the Senetas CN & CS series encryptors means customers may standardise on one platform to protect transmitted data across large hub and spoke or meshed networks, among locations.

FIBRE CHANNEL SERVICES

Providing highly secure, full line rate data encryption, our platforms are also the ideal solution for securing Storage Area Networks (SAN's) at 1, 2 or 4 Gbps.

NETWORK AND MANAGEMENT

Senetas CM7 management software provides simple, secure remote management either out-of-band – using a dedicated Ethernet management interface – or in-band, using the encrypted Ethernet port.

Local management using a command line interface is available via a serial console connector.

Fibre-optic and copper interfaces are available, providing functional and cost benefits.

Optical interfaces allow operation over single mode fibre, multi-mode fibre or over WDM services by choosing an appropriate wavelength.

SENETAS CN PLATFORM

The CN6000 series leads Senetas's commitment to robust and multi-certified world-leading high-speed encryption. The Senetas CN high-speed encryption platform is the world's most trusted of its type.

For customers with modest data network and transmission requirements, the CN4000 series provides solutions for 10Mbps to 1Gbps based on the same trusted no-compromise CN platform.

CERTIFICATIONS*

Government and commercial customers benefit from the Senetas CN6000 series international, independent testing authority certifications.

> Common Criteria

> FIPS

*Refer to detailed certification information at www.senetas.com

What makes Senetas encryptors stand out? Security without compromise!

Senetas encryptors' world leading performance is not limited to their maximum data protection without loss of network performance.

BEST PERFORMANCE

HIGH-SPEED

The "designed-in" market-leading performance capabilities make Senetas encryptors stand out. Whether 10Mbps, 100Mbps, 1Gbps or 10Gbps, they hands-down win competitive performance tests - every time! Their encryption speeds; near-zero data overhead; near-zero latency; and their consistent performance make Senetas encryptors ideally suited to the most demanding environments. They are preferred by many of the world's most secure organisations.

ZERO LATENCY

Senetas high-speed encryptors are operate in full-duplex mode at full line speed without loss of packets. Latency is not affected by packet size (approx. >4 microseconds per unit at 10Gbps) meaning maximum throughput with zero protocol overhead. Importantly, by using Field Programmable Gate Array (FPGA) technology, this outstanding latency performance is predictable and dependable.

TRUSTED ASSURANCE

TRIPLE CERTIFIED

Because Senetas encryptors include the only triple-certified products of their types, they are trusted by governments and defence forces around the world. This exhaustive and rigorous testing over many years provides our government and commercial customers with maximum assurance. Senetas encryptors are certified by: FIPS, CAPS and Common Criteria.

RELIABILITY

Senetas encryptors are designed, developed and manufactured in Australia to exacting standards. In addition to the high levels of security, they provide reliable 99.999% uptime and conform to international requirements for safety and environment.

COMPREHENSIVE RANGE

The Senetas CN range of Layer 2 encryptors provides the widest feature-set able to operate at 10Mbps to 10Gbps support Ethernet, Fibre Channel; SONET/SDH and LINK protocols. This extensive range provides cost-effective network-wide data protection.

SET AND FORGET

SIMPLICITY

"Set and forget" and transparency are underlying Senetas design themes. They help ensure simplicity of implementation, operation and management – low cost. That simplicity continues with an intuitive user interface providing meaningful descriptive diagnostics – such as early warnings and simple fault-finding. They just do their job – with minimal resource requirements.

EASY TO INSTALL

The 'Bump in the Wire' design of Senetas encryptors makes them easy to install. Simply place the encryptor at the access point to the Layer 2 network and all data passing through the unit is encrypted using an AES 256 bit encryption algorithm.

ALL TOPOLOGIES

Senetas encryptors operate in multi-point to multi-point (mesh); single-point to multi-point and single-point to single-point network topologies. Whether the network topology is simple or very complex the same Senetas encryptor benefits apply.

What makes Senetas encryptors stand out? Security without compromise!

BEST PERFORMANCE

ZERO IMPACT

The zero impact of Senetas encryptors is not limited to network bandwidth and speed (latency). It extends to network operations and management. They simply “fit in” within the user network. They don’t require changes to other devices or network reorganisation. Zero impact makes Senetas encryptors a favourite among network engineers - they don’t add load to network operations or management.

FLEXIBILITY

Senetas encryptors’ use of FPGA technology enables maximum operational flexibility. They better meet customers’ specific and unique requirements and provide an optimised high-speed data encryption solution. This flexibility enables on-going operational simplicity, such as in-field upgradability, as customers’ requirements change – protecting their investment.

TRUSTED ASSURANCE

COST EFFECTIVE

Senetas encryptors provide excellent total cost of ownership through a mix of: network bandwidth savings; ease of network management; longevity; reliability; interoperability; backward compatibility; minimal installation and management costs and solution flexibility.

Other cost benefits include: low power consumption; minimal rack space use and combined rack space/power utilisation efficiency.

CUSTOM ALGORITHMS

In addition to the AES 256 bit algorithm, Senetas encryptors may be implemented with alternative, customer requested algorithms.

SOLUTION INTEGRITY

Senetas encryptors provide maximum solution integrity and the highest data protection investment return.

SET AND FORGET

INTEROPERABILITY

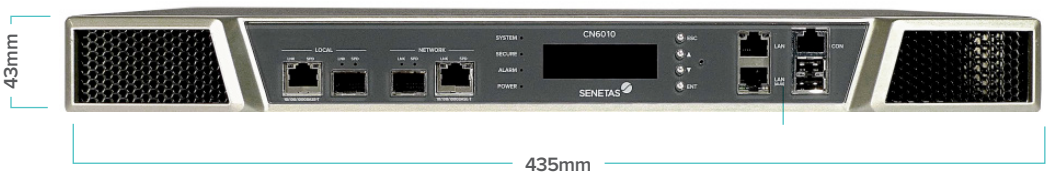
Senetas encryptors that support the same protocol are fully interoperable. All Senetas CN models are backward compatible – and provide the lowest network impact and overhead.

LOCAL OR CENTRALISED MANAGEMENT

Configuration can be performed locally or remotely through the intuitive Senetas CM7 management software, which acts as the Certificate Authority in a network of encryptors by signing and distributing X.509 certificates.

R&D COMMITMENT

Senetas’s market-leading high-speed encryption results from its R&D commitment - to independent international testing certifications and high-speed encryption advances, such as support for Quantum Key Distribution.



Senetas CN6000 Series Defence-Grade 1-10Gbps Certified Encryptors

CN6000 SERIES LAYER 2 ENCRYPTORS AT-A-GLANCE

MODEL	CN6010	CN6040		CN6100
NETWORK PROTOCOL	ETHERNET	FIBRE CHANNEL	ETHERNET	ETHERNET
Ethernet point-to-point, hub & spoke, mesh full-duplex encryption	✓		✓	✓
Fibre Channel point-to-point encryption		✓		
Maximum speed	1Gbps	1-4 Gbps	1Gbps	10Gbps
Support for Jumbo frames	✓		✓	✓
Protocol and application transparent	✓	✓	✓	✓
Encrypts Unicast, Multicast and Broadcast traffic	✓		✓	✓
Automatic network discovery and connection establishment	✓	✓	✓	✓
Network interfaces	RJ45, SFP	SFP	RJ45, SFP	XFP
Tamper resistant and evident enclosure	✓	✓	✓	✓
Anti-probing barriers	✓	✓	✓	✓
Flexible encryption policy engine	✓	✓	✓	✓
Robust AES encryption algorithm	✓	✓	✓	✓
Per packet confidentiality and integrity with AES-GCM encryption	✓		✓	pending
Automatic key management	✓	✓	✓	✓
AES 128 or 256 bit keys	128/256	256	128/256	128/256
Policy based on MAC address or VLAN ID	✓		✓	✓
Encryption modes	CFB, CTR, GCM	CFB	CFB, CTR, GCM	CFB, CTR, GCM
Self-healing key management in the event of network outages	✓	✓	✓	✓
Common Criteria certified	in progress	✓	✓	✓
FIPS certified	✓	✓	✓	✓
Low overhead full duplex line-rate encryption	✓	✓	✓	✓
Latency – microseconds per encryptor (Typical for IPv4 traffic with 64-1518 octet frames)	< 10 @ 1Gbps < 50 @ 100Mbps < 650 @ 10Mbps	< 1	< 10 @ 1Gbps < 50 @ 100Mbps < 650 @ 10Mbps	< 5

For full details of Senetas encryptor models' complete features and specifications see www.senetas.com

*Pending firmware release

CN6000 SERIES LAYER 2 ENCRYPTORS AT-A-GLANCE

MODEL	CN6010	CN6040		CN6100
NETWORK PROTOCOL	ETHERNET	FIBRE CHANNEL	ETHERNET	ETHERNET
FPGA based cut-through architecture	✓	✓	✓	✓
Ultra low latency for high performance	✓	✓	✓	✓
Front panel access for all interfaces	✓	✓	✓	✓
Centralised configuration and management using CM7 and SNMPv3	✓	✓	✓	✓
SNMPv1/2 monitoring (read-only)	✓	✓	✓	✓
Support for external (X.509v3) CAs	✓	✓	✓	✓
Remote management using SNMPv3 (in-band and out-of-band)	✓	✓	✓	✓
NTP (time server) support	✓	✓	✓	✓
CRL and OCSP (certificate) server support	✓	✓	✓	✓
In-field firmware upgrades	✓	✓	✓	✓
Dual swappable AC and/or DC power supplies	✓	✓	✓	✓
User replaceable fans and batteries	✓	✓	✓	✓
Fully interoperable with related CN/CS models	✓	✓	✓	✓

YOUR ASSURANCE

- Certified government and defence-grade data protection and performance assurance.
- Senetas CN series encryptors' certifications include: FIPS (USA), CAPS (UK) and Common Criteria (International and Australia). See www.senetas.com for details.
- No-compromise certified Senetas encryptors' performance provides exceptional assurance of maximum network performance and essential peace of mind.

WHY SENETAS CN6000 SERIES ENCRYPTORS?

- Certified maximum high-speed network performance *and* data protection:
  - robust defence-grade high-speed encryption
  - excellent total cost of ownership and security ROI
  - near-zero latency
  - zero network impact
  - maximum bandwidth
  - minimum overhead
  - scalable and flexible
  - simple to manage
  - customisable flexibility
  - maximum availability
- Secure data transmission across Layer 2 networks.
- Defence-grade and ultra-reliable 99.999% up-time network data security.
- Field Programmable Gate Array (FPGA) benefits:
  - the flexibility of FPGA chip technology
  - enables advanced customisation to your needs
  - provides cut-through architecture minimising latency
  - provides hardware flexibility not enabled by ASICs
- Senetas certified defence-grade encryptors are used by governments; defence agencies; data networks and communications companies; major Cloud, data centre and data service providers; and commercial organisations in more than 25 countries. Senetas encryptors protect much of the world's most sensitive information.

For full details of Senetas encryptor models' complete features and specifications see www.senetas.com

*Pending firmware release

SPECIFICATIONS

MODEL	CN6010	CN6040		CN6100
FORM FACTOR	1U, rack mount	1U, rack mount	1U, rack mount	1U, rack mount
PHYSICAL DIMENSIONS (W, D, H) MM	436, 328, 43	436, 328, 43	436, 328, 43	436, 328, 43
WEIGHT	8.5 kg	8.5 kg	8.5 kg	8.5 kg
POWER SOURCE	mains	mains	mains	mains
POWER INPUT RATING	100-240 VAC, 50-60 Hz, 1.5 A or 40.5-60 VDC, 2.0 A	100-240 VAC, 50-60 Hz, 1.5 A or 40.5-60 VDC, 2.0 A	100-240 VAC, 50-60 Hz, 1.5 A or 40.5-60 VDC, 2.0 A	100-240 VAC, 50-60 Hz, 0.6 A or 40.5-60 VDC, 1.0 A
POWER CONSUMPTION (TYPICAL AT HIGHEST DATA RATE)	18 W	38 W	38 W	50 W
ENVIRONMENT, REGULATORY AND SAFETY:				
ROHS COMPLIANT	✓	✓	✓	✓
MAXIMUM OPERATING TEMPERATURE	50°C	50°C	50°C	50°C
	0-80% RH at 50°C	0-80% RH at 50°C	0-80% RH at 50°C	0-80% RH at 50°C
SAFETY STANDARDS	EN 60950-1 (CE)	EN 60950-1 (CE)	EN 60950-1 (CE)	EN 60950-1 (CE)
	IEC 60950-1	IEC 60950-1	IEC 60950-1	IEC 60950-1
	AS/NZS 60950.1	AS/NZS 60950.1	AS/NZS 60950.1	AS/NZS 60950.1
UL LISTED	✓	✓	✓	✓
EMC (EMISSION AND IMMUNITY)	FCC 47 CFP Part 15 (USA)	FCC 47 CFP Part 15 (USA)	FCC 47 CFP Part 15 (USA)	FCC 47 CFP Part 15 (USA)
	ICES-003 (Canada)	ICES-003 (Canada)	ICES-003 (Canada)	ICES-003 (Canada)
	EN55022 (CE)	EN55022 (CE)	EN55022 (CE)	EN55022 (CE)
	AS/NZS CISPR 22 (C-tick)	AS/NZS CISPR 22 (C-tick)	AS/NZS CISPR 22 (C-tick)	AS/NZS CISPR 22 (C-tick)
	EN 61000-3-2 (CE)	EN 61000-3-2 (CE)	EN 61000-3-2 (CE)	EN 61000-3-2 (CE)
	EN 61000-3-3 (CE)	EN 61000-3-3 (CE)	EN 61000-3-3 (CE)	EN 61000-3-3 (CE)
	EN 55024 (CE)	EN 55024 (CE)	EN 55024 (CE)	EN 55024 (CE)

CN6000 Series Defence-Grade 1-10Gbps Certified Encryptors

CN6010 Defence-Grade 1Gbps Certified Encryptor

CN6040 Defence-Grade 1-4Gbps Certified Encryptor

CN6100 Defence-Grade 10Gbps Certified Encryptor

SENETAS PARTNERS

Senetas works extensively with partners – leading data protection, data network service providers and systems integrators – in more than 20 countries around the world.

Our accredited international master distributor and partners have proven expertise in high-speed data networks and data protection.

Importantly, Senetas partners invest in network data protection and high-speed encryption technical training and customer needs analysis.

For Senetas partner information, go to www.senetas.com/partnerresources.

TALK TO SENETAS OR OUR PARTNERS

A brochure does not provide all the information necessary to determine the optimal encryptors for your data network and data protection.

Senetas and our accredited international master distributor and partners around the world, have data security and high-speed network technical specialists who will help.

Senetas also works with customers' existing data network service providers, systems integrators and information security specialists to specify the optimal high-speed encryption solution for your needs.

The optimal specification of Senetas encryptors for your network data protection is dependent upon many factors, including IT and network environments, technical and business needs.

Wherever you are, simply contact Senetas to discuss your needs. Or, if you prefer, your service provider may contact Senetas on your behalf.

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