

VERSATILE
AND COMPACT
ENTRY-LEVEL
10MBPS-1GBPS
ENCRYPTION
CN4000 SERIES

Introducing Senetas CN4000 Series Encryptors – versatile, entry-level, high-performance encryptors for network data security without compromise.

Because both large and small organisations' networks are vulnerable to damaging security breaches, Senetas developed the CN4000 series of entry-level encryptors.

The CN4000 series is the ideal low cost, high-performance encryptor range for Small to Medium Enterprises (SME). They also enable an ideal cost effective "encrypt everywhere" solution for Large Enterprises.

The Senetas CN4000 series encryptors help ensure that no organisation – large or small – need risk costly network breaches.

Setting a price/performance entry-level benchmark, the CN4000 encryptors meet more modest network requirements, yet deliver the same valuable benefits that make Senetas encryptors stand out.

The CN4000 series of entry-level encryptors deliver cutting edge protection of data, voice and video communications – without compromising network performance!

THE CN4000 SERIES

Despite their compact "modem" form-factor and small footprint, CN4000 encryptors deliver the same Senetas world-leading CN encryption platform's data protection and performance benefits.

Valuable Senetas CN encryptor benefits, such as zero network impact, near-zero latency, simple implementation and interoperability are all delivered by the CN4000 encryptors.

They are also the ideal low cost encryption solution for widely distributed computing environments and multiple locations.

The Senetas CN4000 series encryptors put world-leading high-performance encryption of network transmitted data within easy, cost effective reach.

ETHERNET SERVICES

Versatile and scalable, the CN4000 encryptors provide secure full line rate transparent encryption over Ethernet networks in point-point, hub & spoke or meshed environments – 10 Mbps to 1 Gbps Ethernet Layer 2 encryption.

"Bump in the Wire" design and variable speed licenses make CN4000 encryptors easy to install and very cost-effective. "Set and forget" implementation and transparency design themes, help minimise resource requirements.

Designed to be testing authority certified, the CN4000 series is tamper resistant, employs automatic key management and utilizes robust AES 256-bit algorithms.

METRO WIDE AREA ETHERNET SERVICES

The growth of Ethernet services makes the CN4000 encryptors an ideal solution for organisations with branch and remote locations. CN4000 encryptors provide secure encryption of Ethernet traffic across dark fiber, metro and wide area Ethernet services.

Supporting more than 500 concurrent encrypted connections, the CN4000 encryptors operate at full line speed without compromising network performance!

SENETAS CN PLATFORM

The CN4000 series confirms Senetas's commitment to robust and certified world-leading high-speed encryption, including entry-level customer requirements. The Senetas CN high-speed encryption platform is the world's most trusted of its type.

For customers with demanding, defence-grade needs, the CN4000 series provides solutions for 1Gbps to 10Gbps; based on the trusted, no-compromise CN platform.

NETWORK AND MANAGEMENT

Senetas CN4000 encryptors' key generation and distribution capabilities eliminate reliance upon external key servers and provide robust, fault-tolerant security architecture.

CN4000 series encryptors are fully interoperable with all Senetas CN and CS series encryptors.

The Senetas CM7 remote management tool provides comprehensive and intuitive remote management. Local management interface is available via a serial console connector using a command line interface.

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 effected 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

GLOBALLY CERTIFIED

Because Senetas encryptors include the only multi-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 Common Criteria and NATO.

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.

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.



The Senetas CN4010 high-performance 10Mbps – 1Gbps encryptor.

CN4000 SERIES ENCRYPTORS AT A GLANCE

Protocol	Ethernet
Speed	10/100/1000 Mbps
Protocol and application transparent	✓
Common Criteria certified	✓
FIPS certified (140-2 L3)	✓
Low overhead full duplex line-rate encryption	✓
Ultra low latency for high performance	✓
Support for external (X.509v3) CAs	✓
Robust AES encryption algorithm	✓
CRL and OCSP server support	✓
Automatic key management	✓
Flexible encryption policy engine	✓
Encrypts Unicast, Multicast and Broadcast traffic	✓
Policy based on MAC address or VLAN ID	✓
Support for Jumbo frames	✓
Self-healing key management in the event of network outages	✓
Per packet confidentiality and integrity with AES-GCM encryption*	✓
Smart network discovery and automatic connection establishment	✓
Centralized configuration and management using Senetas CM7	✓
Remote management using SNMPv3 (in-band and out-of-band)	✓
FPGA based cut-through architecture	✓
Tamper resistant and evident enclosure	✓
Fully interoperable with related CN/CS/SEE models	✓

WHY SENETAS CN4000 SERIES ENCRYPTORS?

- > No-compromise performance:
 - Near-zero latency
 - Maximum bandwidth
 - Minimum overhead
 - Scalable and flexible
 - Simple to manage
 - Reliability
 - Maximum availability
- > Secure transmission of data through Layer 2 networks.
- > High-performance and ultra-reliable 99.999% up-time data network security.
- > FPGA flexibility:
 - Field Programable Gate Array chip technology
 - Provides cut-through architecture
 - Enabling customisation
 - Hardware flexibility not enabled by ASICs
- > Senetas high-speed encryptor technology is used by governments, defence forces and commercial organisations in more than 25 countries.

SENETAS CN4000 SERIES ENCRYPTORS AT A GLANCE

MODEL	CN4010	CN4020
PROTOCOL SUPPORTED	ETHERNET	ETHERNET
PROTOCOL AND CONNECTIVITY:		
Ethernet point-point, hub & spoke, mesh full-duplex encryption	✓	✓
Fibre Channel point-point encryption	-	-
Physical Encryption Channels	1	1
Maximum Speed	1 Gbps	1 Gbps
Support for Jumbo frames	✓	✓
Protocol and application transparent	✓	✓
Encrypts Unicast, Multicast and Broadcast traffic	✓	✓
Automatic network discovery and connection establishment	✓	✓
Network interfaces	RJ45	SFP
SECURITY:		
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	✓	✓
Automatic key management	✓	✓
Traffic analysis protection (TRANSEC)	✓	✓
ENCRYPTION AND POLICY:		
AES 128 or 256 bit keys	128/256	128/256
Policy based on MAC address or VLAN ID	✓	✓
Encryption modes	CFB, CTR, GCM	CFB, CTR, GCM
Self healing key management in the event of network outages	✓	✓
ACCREDITATION:		
Common Criteria certified	✓	In progress
FIPS certified	✓	In progress
PERFORMANCE:		
Low overhead full duplex line-rate encryption	✓	✓
FPGA based cut-through architecture	✓	✓
Ultra low latency for high performance	✓	✓
Latency (microseconds per encryptor)	< 10 @ 1 Gbps < 50 @ 100 Mbps <650 @ 10 Mbps	< 10 @ 1 Gbps < 50 @ 100 Mbps <650 @ 10 Mbps
MANAGEMENT:		
Centralised configuration and management using CM7 and SNMPv3	✓	✓
SNMPv1/2 monitoring (read-only)	✓	✓
Certificate signing	RSA, EC	RSA, EC
Support for external (X.509v3) CAs	✓	✓
Remote management using SNMPv3 (inband and out-of-band)	✓	✓

MODEL	CN4010	CN4020
PROTOCOL SUPPORTED	ETHERNET	ETHERNET
NTP (time server) support	✓	✓
CRL and OCSP(certificate) server support	✓	✓
MAINTAINABILITY/ INTEROPERABILITY:		
In-field firmware upgrades	✓	✓
Dual swappable AC and/or DC power supplies	-	-
Fan cooled	-	✓
User replaceable fans	-	-
Fully interoperable with related CN/CS models	✓	✓
PHYSICAL AND INSTALLATION:		
Form factor	bench, rack mount kit	bench, rack mount kit
Physical dimensions (W, D, H)	180, 126, 32 mm	180, 126, 32 mm
Weight	500 g	500 g
Power source	AC plug pack	AC plug pack
Power input rating	9-15 VDC, 1.0 A at DC Input; 100-240 VAC, 0.7 A at Plug Pack AC Input	12 VDC, 1.0 A at DC Input; 100-240 VAC, 0.7 A at Plug Pack AC Input
Power consumption (Typical at highest data rate)	6 W at DC Input; 10 W at Plug Pack AC Input	7 W at DC Input; 11 W at Plug Pack AC Input
All interfaces accessible on single panel	✓	✓
ENVIRONMENT, REGULATORY AND SAFETY:		
RoHS compliant	✓	✓
Maximum operating temperature	40°C	40°C
	0-80% RH at 40°C	0-80% RH at 40°C
Safety standards	EN 60950-1 (CE)	EN 60950-1 (CE)
	IEC 60950-1	IEC 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)
	ICES-003 (Canada)	ICES-003 (Canada)
	EN55022 (CE)	EN55022 (CE)
	AS/NZS CISPR 22 (RCM)	AS/NZS CISPR 22 (RCM)
	EN 61000-3-2 (CE)	EN 61000-3-2 (CE)
	EN 61000-3-3 (CE)	EN 61000-3-3 (CE)
	EN 55024 (CE)	EN 55024 (CE)

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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