KG-255X

Rugged, 2-Gbps aggregate dual-use High Assurance Layer 2 (EDE-CIS)/Layer 3 (HAIPE®) network encryptor for tactical edge and high-speed enterprise applications

Viasat's KG-255X is a rugged, High Assurance In-line Network Encryptor (INE) certified by the National Security Agency for up to TS/SCI. This flexible security appliance delivers trusted protection for your enterprise or tactical network by leveraging 2-Gbps aggregate processing power and a software-re-programmable architecture to meet evolving cybersecurity requirements. The KG-255X supports standard off-the-shelf copper, fiber single-mode/multi-mode SFPs.

The KG-255X's thermal design and packaging provides effective power management, high reliability, and lower touch temperatures, making the KG-255X the best overall 2-Gbps encryptor for use in extreme tactical deployment missions. Combined with Viasat's high availability rack, the KG-255X accommodates the highest density 1U stacking of 2-Gbps encryptors available today.

Minimize network overhead and simplify configurations with embedded OSPF/PIM

With the ability to host a wide range of networking features such as Open Shortest Path First (OSPF) and Protocol Independent Multicast (PIM), the KG-255X is the only 2-Gbps aggregate encryptor capable of reducing your network overhead and seamlessly integrating remote Plain Text networks. Remotely re-key a network of HAIPE devices from a physically secure location with HAIPE-to-HAIPE over-the-air/net keying. Improve performance over high-latency links with embedded TCP/IP acceleration (xPeP). The KG-255X supports configurations for one-to-one, many-to-one and many-to-many multicast scenarios improving flexibility and reducing administrative overhead.

Pass through Layer 2 traffic using VLAN/Ethernet tunneling over Layer 3 networks or true Layer 2 EDE-CIS mode

The KG-255X is the only encryptor that can be used either as a Layer 3 HAIPE or Layer 2 EDE, depending on the mode of operation that is activated via user selection.

- In HAIPE mode, it can interoperate with KG-250X/KG-250XS/IPS-250X or any other HAIPE-compliant device. It also has VLAN/Ethernet tunneling for Layer 2 data over Layer 3 networks.
- In the EDE-CIS mode, it can interoperate directly with Viasat's High Assurance, high speed Ethernet encryptors, for example the KG-142, using MACsec to aggregate data for data center interconnect.

KG-255X At-A-Glance

HAIPE Capabilities

- HAIPE IS v4.2.5 compliant
- Suite A only, Suite B only, Suite A/B simultaneously (packet-by-packet suite Agility) or IPMEIR
- HAIPE-to-HAIPE over the air/net keying
- Fully Foreign Interoperable (FI) compliant with software and key material source authentication and programmability
- Software upgradeable to meet evolving cybersecurity requirements

HAIPE Enhanced Networking Capabilities

- HAIPE Compliant VLAN/Ethernet tunneling for Layer 2 data over Layer 3 networks included at no extra cost
- Optional embedded OSPF and PIM routing
- Multicast video on demand included at no extra cost
- Optional embedded TCP/IP accelerator (xPeP)
- High performance in VoIP applications

EDE-CIS Enhanced Networking Capabilities

- EDE-CIS v4xxx compliant
- Metro Ethernet Forum (MEF) and IEEE compliant frame forwarding
- Low traffic latency

Crypto-Modernization Centric

- ACC, OTNK KMI Aware, PDE enabled
- Programmable encryption
- Key and algorithm agile per packet
- Classified and Unclassified Device Generated Shared Key (CDGSK/DGSK); as well as centralized key distribution sources (for example KMI)

Management

- Browser-based HMI configurations
- Centralized INE management; VINE™ Enterprise Manager software provided at no extra cost
- RESTful API (EDE-CIS Mode)

Support

- 5-year warranty (extended options available)
- Free training and 24/7 technical support
- INE trade-in program available

Viasat KG-255X

Specifications

NETWORKING FEATURES AND PROTOCOLS

Protocols Supported	TCP, UDP, IPv4/IPv6 Dual Stack, ICMP, IGMP, ARP, DHCP, PIM
Networking Features	Dynamic IP addressing, dynamic key management, plain-text address confidentiality with dynamic peer discovery, embedded OSPF routing, support for “JUMBO” Ethernet frames
Management	SNMPv3 & HTTPS browser-based management, VINE™ Manager software
Quality of Service (QoS)	Type of service octet bypass
Fragmentation	Supports fragmentation and header options for plain-text IP packets

NETWORK INTERFACES (ELECTRICAL/MECHANICAL)

Plain-text Data	IEEE 802.3; copper RJ-45 SFP 10/100/1000 Base-T, IEEE 802.3; optical SFP 1000 base-SX, LX, ZX, various connector styles (LC, MT-RJ)
Cipher-text Data	IEEE 802.3; copper RJ-45 SFP 10/100/1000 Base-T, IEEE 802.3; optical SFP 1000 base-SX, LX, ZX, various connector styles (LC, MT-RJ)
Management Interface	IEEE 802.3; 10/100/1000 Base-T; copper RJ-45
Future Interface	Supports up to three plain-text and three cipher-text ports

COMSEC CHARACTERISTICS

Algorithm Agile	ACC compliant, Suite A and/or Suite B (AES-GCM) or IPMEIR
Key Fill Interface	DS-101
Flexible Keying	Crypto Ignition Key removal to unclassified CCI, OTNK (KMI Aware, PDE enabled), unclassified/classified Device Generated Shared Key (DGSK)

CERTIFICATION

NSA Certified for TS/SCI and below

TEMPEST Compliant NSTISSAM 1/92 Level 1

PHYSICAL CHARACTERISTICS

Dimensions (W x H x D)	7.9 x 1.51 x 13.61 in. (20.1 x 3.8 x 34.6 cm)
Weight	7.8 lb. (3.54 kg)
Power	39 W typical, 56 W max; 12 to 28 VDC; MIL-STD-1275E; MIL-STD-704F
Battery	1/2AA 3.6V (Li-SOCl2)

ENVIRONMENT

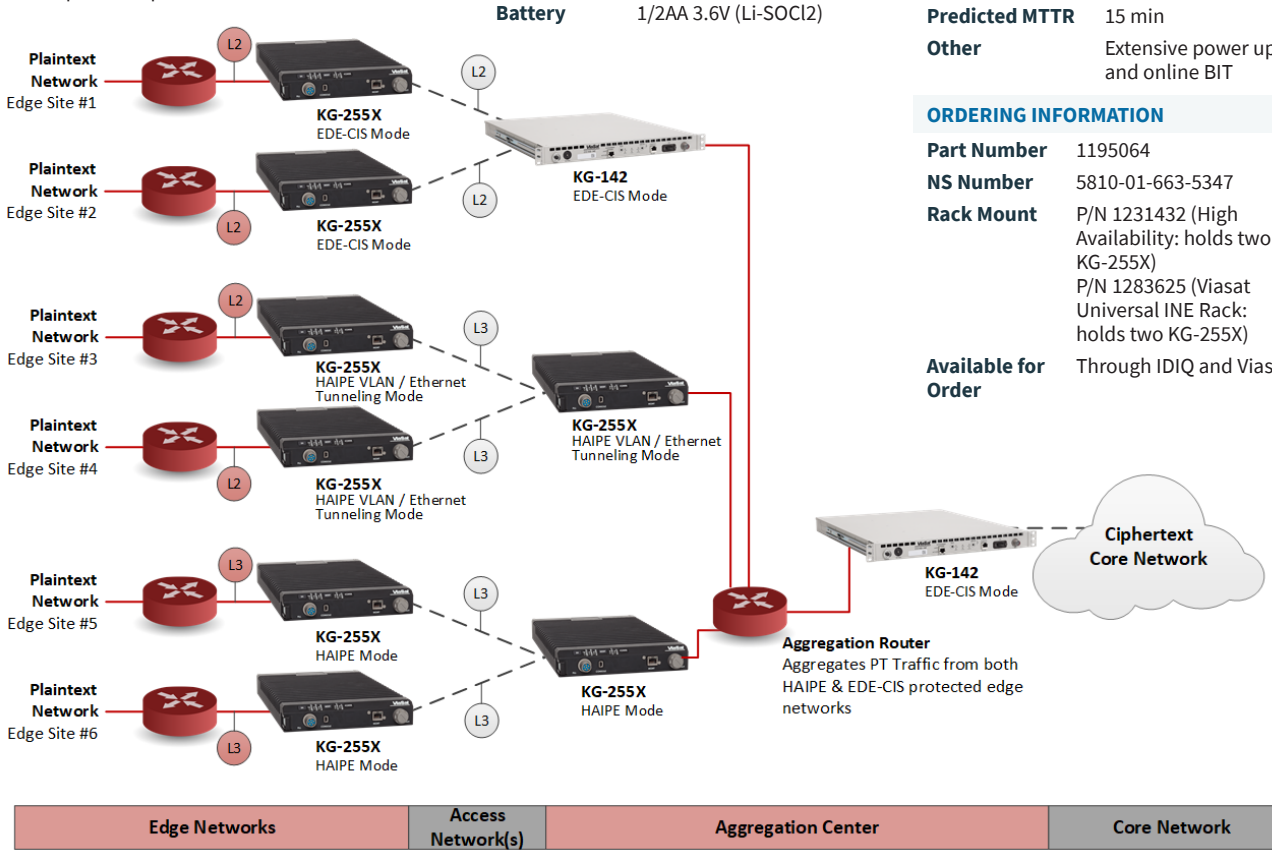
Temperature	Operating: -40° to 60°C; Storage: -40° to 71°C
Humidity	To 95%; MIL-STD-810G, Method 507.5
Altitude	50,000 ft. (15240 m) operational; 69,000 ft. (21336 m) storage; MIL-STD-810G, Method 500.5
Vibration	MIL-STD-810G, Method 514.6, Category 4
Shock	MIL-STD-810G, Method 516.5
EMI/EMC	MIL-STD-461E
Rain	Blowing rain; MIL-STD-810G, Method 506.5
Sand/Dust	MIL-STD-810G, Method 510.5
Fungus	MIL-STD-810G, Method 508.6
Salt Fog	MIL-STD-810G, Method 509.5

RELIABILITY AND MAINTENANCE

Predicted MTBF	250,000 hrs.
Predicted MTTR	15 min
Other	Extensive power up and online BIT

ORDERING INFORMATION

Part Number	1195064
NS Number	5810-01-663-5347
Rack Mount	P/N 1231432 (High Availability: holds two KG-255X) P/N 1283625 (Viasat Universal INE Rack: holds two KG-255X)
Available for Order	Through IDIQ and Viasat



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