**COVENDO** Smart Technology

# KINDI

ENCRYPTION DEVICES





## Rovenma

Rovenma is an innovative technology company with R&D, engineering and production capabilities that are dedicated to sustainable technological development with its highly experienced technical team.

Rovenma acts with the principle of industry 4.0 while offering solutions to the problems and needs of the ecosystem. In addition to its experienced software, electronic and digital design capabilities, it aims to offer effective solutions with its mechanical and industrial design competence.

Rovenma, believes that the way to produce high value-added technologies comes as a result of the happy and efficient staff. Therefore, made the biggest investment to its human resource.



## **R&D** and Engineering

Located in one of the most important R&D locations of Turkey, Hacettepe Teknokent, Rovenma's experienced R&D team has the following technical capabilities.

- High Speed PCB Design
- Embedded Software Design
- FPGA/ASIC Digital Design
- Mechanical Design
- Server Software Development
- PC Software Development
- Mobile Software Development
- Mechanical Analysis

- Numerical Analysis
- Industrial Design
- Industrial Automation
- Robotics
- Cloud-Based Big Data
- 3D Design
- Technical Consulting

#### Manufacturing

Rovenma's factory, where the R&D capabilities are transformed into production, is located in Kazan which is one of the most important industrial zones of Ankara. Together with its 30 different suppliers, Rovenma can carry out the following processes;

- Electronic Card Production
- Electronic Card Composition
- Cabling Production
- Mechanical Production
- Electric / Electronic Production Machining
- Metal Injection
- Plastic Injection
- Mouling

- Mechanical Production
- Sheet Metal Cutting
- Sheet Metal Bending
- Precision Machining
- 3D Printing
- Painting

# L2 and L3 Encryption Devices

Rovenma network security product family was named Kindi, inspired by the scientist "El-Kindi", who invented the method of frequency analysis that solved many cryptographic messages with this method.

All the solutions Rovenma offers under the Kindi brand; are hardware based, high performance and low latency solutions. Unlike software based solutions, there is no loss of performance, speed and data.



Kindi Ethernet Crypto (L2) and Kindi IP Crypto (L3) devices encrypt bidirectional data traffic on different topologies.



# Wherever data security is needed...

The Kindi family is one of the best and most efficient network security solution for any industry.



## Kindi Ethernet Crypto (L2) Devices

Kindi Ethernet Crypto Devices encrypt bidirectional data traffic between locations with a maximum  $2\mu s$  latency up to 40Gbps speed with its 2U, 1U and desktop versions.

Point-to-point, point-to-multipoint and multipoint-to-multipoint encryption are done in the real time **AES 256bit** GCM mode.

Certification	EAL4+	Under Certification Process	
	ISO 19790 Level 3	Compatible	
	FIPS 140-2	Compatible	
	CE	Compatible	
Encryption Management Features	AES 256bit	S	
	14 Round Encryption	S	
	GCM Mode	S	
	Full Bidirectional Real Time Encryption	S	
	Latency	<2µs	
Management Features	Key Management	S	
	User Management	S	
	Parameter Management	S	
Key Exchange Features	Hardware Random Number Generator	S	
	Full Automatic Key Update	S	
Communication Features	L2 Ethernet Support (Metro, MPLS, SDH, R/L)	S	
	VLAN Support	S	
	Jumbo Package Support	S	
	Operating Temperature	-10°C to 50°C	
Physical and Environmental Characteristics	Storage Temperature	0°C to 40°C	
	Metal Case	S	
	Active Ventilation	Speed Controlled Fan	

		2U	1U	Desktop
Physical and Environmental Characteristics	Width/Height/Depth (cm)	48,25/8,8/37,5	48,25/4,4/37,5	23/4,4/25
	Assembly	Rack Mount	Rack Mount	Desktop
	Power Input	2x220V AC	1x220V AC	1x12V DC
	Redundant Architecture	S	Х	Х
Encryption Management Features	Custom Algorithm Installation	S	S	S
	Encryption Performance	10/40 Gbps	1/10 Gbps	10/100/1000 Mbps
	Remote Management Port	S	S	S
Management Features	Terminal (RS232)	S	S	S
	Webportal (RJ45 Ethernet)	S	S	S
	Syslog and SNMP Support	S	S	Х
Key Exchange Features	Asymmetric Protected Key Share Over Secure Line	0	0	0
	Asymmetrically Protected Key Share From Remote Management Port	S	S	х
Communication Features	RJ45	0	0	0
	SFP / SFP+	S	S	S
	QSFP	0	0	Х
	MPLS / SONET / R/L	S	S	S
Security Features	Key Reset	S	S	х
Basic Tamper Security	Chassis Safety Sensors	S	S	S
	Puncture Resistant Chassis	S	S	S
	Software Detection	S	S	S
	Silent Central Alarm	S	S	S
Advanced Tamper Security	Temperature / Humidity / Vibration Tracking	S	S	Х
	Internal Communication Encryption	S	S	S
	Motion Sensor Tracking	S	S	х
	Battery Support	S	S	X



Kindi IP Crypto, is a hardware encryption device that carries bidirectional data traffic of L3 networks up to 40Gbps speed with a maximum latency of 2µs.

By using AES 256 bit, 14 round on GCM mode, it provides the safest data encryption with minimum latency.

Kindi IP Crypto is more secure compared to standard L3 IP-SEC encryption devices. It uses the encryption capabilities of the L2 level by tunneling when roaming in the L3 network.





Data diode is a device that works as a one-way security gateway. It is placed between two networks with different security levels and ensures the security of the network by allowing only one-way transfer.

### How Data Diode Works?

With the sender on one side and the receiver on the other side, the optical fiber ensures that data flows only in one direction and prevents data flow in the reverse direction with its hardware structure.



- It allows communication in one direction only.
- While the traffic is transmitted, answers are not allowed to transmit back.
- Point-to-point or point-to-multipoint delivery is provided.
- Unlike firewall or DLP systems, data loss prevention is not bound to the settings of the device. The data leakage is physically impossible.
- Special DPA (Data Pump Application) software is offered.
- It has a maximum 2µs latency at 10/100/1000 Mbps to 40Gbps speed.
- AES 256bit GCM Mode encryption on hardware is available as an option.

#### **Data Diode Technical Specifications**

#### **Network Connections**

Ethernet (RJ45)

RS232 (DB9)

Home port (SFP/SFP+)

One way send or receive port (SFP/SFP+)

#### **Network Performance**

10/100/1000 Mbps 1/10 Gbps line performans

Ethernet 802.3 support

VLAN 802.1Q 802.3 support

VLAN 802.1AD support

Line Encryption Support (Optional)

AES 256bit hardware encryption

GCM operating mode

10Gbps line encryption support

Advanced key management

Automatic key generation with the cryptographic RNG

#### **Management Features**

User management

Logging and time stamping

**SNMP** settings

Device usage status and monitoring of statistical data

**Security Features** 

Tamper protection

Emergency e-mail sending

Data corruption or loss detection on the line

**Physical Properties** 

Operating temperature between 0°C and 50°C Storage tempreture between -10°C and 60°C

WxDxH 230 x 250 x 44.5 mm

Rackmount bracket (optional)

3kg weight

**Electrical Features** 

12V DC supply

DC socket

2A AC adapter





- Can be used in the user network directly thanks to its compatibility with other devices.
- Does not reduce the performance of other devices in the same network.
- Would not be affected in case of any tampering to the other devices.

Security Features of Kindi Group

In case of any tampering attempt to the device:

- User data
- AES keys
- Critical data

is automatically deleted.

## MEMBERSHIPS









Information Security Association















Üniversiteler Mahallesi 1596. Cadde Hacettepe Teknokent 6.Ar-Ge Safir A Blok Kat:8-9 No:27-28 Beytepe-ANKARA-TÜRKİYE

+90 312 397 54 54 +90 312 397 07 70 info@rovenma.com www.rovenma.com export@rovenma.com