

ENCRYPTED ISOLATORS

DATA SHEET



HSL's Encrypted Isolators provide hardware-enforced protection for video and HID (keyboard and mouse) communications in high-assurance environments.

Built on NIAP PP4.0 certified data isolation technology and featuring FIPS 140-3 compliant encryption, they enforce a strict unidirectional flow of video and HID data while blocking all other communication channels to and from connected systems. This architecture prevents unauthorized data transfer, mitigates external cyber threats, and protects HID traffic against interception, man-in-the-middle (MITM) attacks, and keylogging.

KEY FEATURES

Supports secure KVM extension:

- > Enforces hardware-level restriction, isolation and encryption to data-in-transit between a host/console and the linked endpoint.

Host agnostic:

- > Operates with any host device supporting USB and HDMI/DisplayPort interfaces.

Flexible deployment:

- > Can be integrated into KVM extenders (Tx & Rx) or KVM over IP matrices as an inline security layer between host/console and endpoint.

Scalable by design:

- > Additional Rx and Tx units can be added to existing KVM over IP infrastructures as needed.

Plug and play:

- > Preconfigured with encryption/decryption keys for immediate deployment and simplified integration.

SECURITY FEATURES

Standards-based security:

- > The encrypted isolators are NIAP Protection Profile 4.0 certified for Peripheral Sharing Devices (PSD), and the cryptographic module is FIPS 140-3 compliant.

Restricted data flow:

- > Only video and HID data is permitted to pass through the encrypted isolator.

Hardware-enforced isolation:

- > A unidirectional data diode enforces a strict flow of video from the host to the console, and HID from the console to the host.

Data encryption:

- > HID data in transit is protected using AES-256 GCM encryption, preventing key logging and MITM attacks.

Independent security:

- > Data restriction, isolation, and encryption are enforced by dedicated hardware, independent of the host operating system and software stack.

Built for trust:

- > Encrypted isolators are developed and manufactured in house using a secure supply chain, and are TAA/BAA compliant.

PART NUMBER	FI11PHT-ME (TRANSMITTER SIDE)	FI11PHR-ME (RECEIVER SIDE)
HOST/CONSOLE CONNECTIVITY		
Keyboard and Mouse (HID)	1x USB Type B	2x Type USB A
Video	1x DP/HDMI	1x DP/HDMI
ENDPOINT CONNECTIVITY		
Keyboard and Mouse (HID)	1x USB Type B	1x USB Type B
Video	1x DP/HDMI	1x DP/HDMI
PERFORMANCE		
Max Resolution	UHD 4k up to 3840x2160 30Hz	UHD 4k up to 3840x2160 30Hz
PHYSICAL		
Dimensions	145x105x28 mm / 5.8x4.2x1.1 in	145x105x28 mm / 5.8x4.2x1.1 in
Weight	0.3 kg / 0.64 lbs	0.3 kg / 0.64 lbs
POWER		
Power Requirements	DC input 12V/1.5A Maximum	DC input 12V/1.5A Maximum
Max Power Consumption	2 W	2 W
AC Input	External power supply unit. 90V - 240V AC	External power supply unit. 90V - 240V AC
ENVIRONMENTAL		
Operating Temperature	0°C to 40° C / 32°F to 104° F	0°C to 40° C / 32°F to 104° F
Storage Temperature	-20°C to 60° C / -4°F to 140° F	-20°C to 60° C / -4°F to 140° F
Humidity	0%-80% RH, non-condensing	0%-80% RH, non-condensing
COMPLIANCE		
Security	Certified to NIAP Common Criteria PP4.0 PSD Protection Profile FIPS 140-3 Compliant Encryption	Certified to NIAP Common Criteria PP4.0 PSD Protection Profile FIPS 140-3 Compliant Encryption
Manufacturing	TAA/BAA Compliant	TAA/BAA Compliant
Product	CE, RCM, FCC class B, VCCI	CE, RCM, FCC class B, VCCI
GENERAL INFO		
Product Lifecycle	10 Years	10 Years
Product Warranty	2 Years	2 Years

