

UNCLASSIFIED

NEOUS

Secure KVM & Video Matrix Multi-Domain Solutions

A scalable solution for interacting securely with multiple sources of different classifications, using shared peripherals.

HLT33163 Rev 1.4



 **HighSecLabs**
Highest Security Solutions ●●●

WHY NEOUS?

NEOUS is a secure matrix solution when network sources are **physically distanced** from users.

Neous is *the* solution when sources reside on **multiple networks** of different classification levels.

Neous ensures ease of Cross Domain use while **preventing data leaks** between networks.



Typical use cases:

- Command & Control Centers
- Operational Centers
- Critical Infrastructure Monitoring
- Defense Contractors
- Government Agencies
- Air Traffic Control
- Financial Centers
- Healthcare

NEOUS: SECURE MULTI-DOMAIN KVM/VIDEO MATRIX

NEOUS: The 1st Secure KVM/Video over IP Matrix Solution

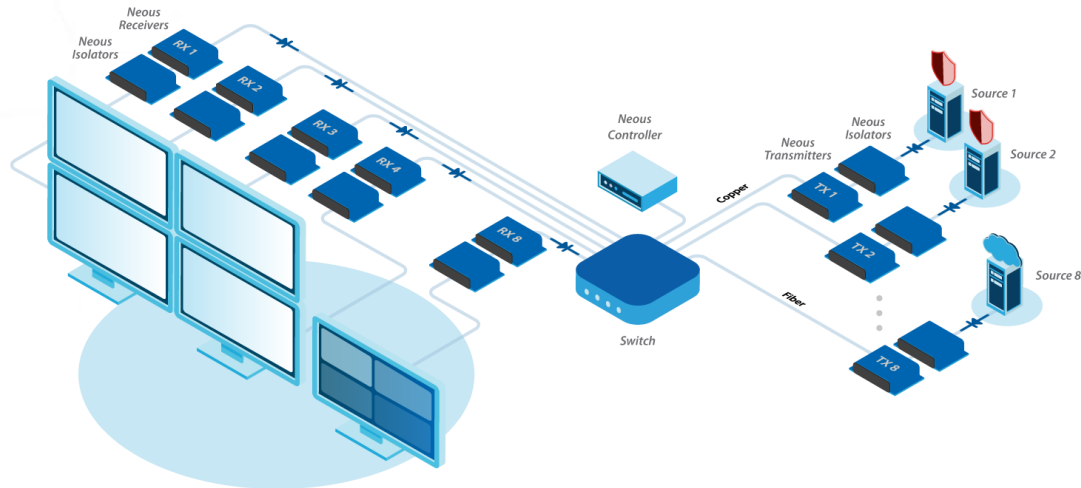
- **AVAILABLE** as KVM and Video matrix
- **FLEXIBLE** for multiple-user, multiple source classification level installations
- **GROWS** as needs evolve. Just add another receiver or transmitter to **increase capacity**.
- **EXTENSIBLE** design for adding features through software upgrades
- **ZERO-LATENCY**
- **NIAP/Common Criteria PP4.0** certified components
- **CROSS-DOMAIN** usage secured through **HW**
- **ENFORCED** use of NIAP certified Isolators



NEOUS: KVM MATRIX AND VIDEO MATRIX OPTIONS

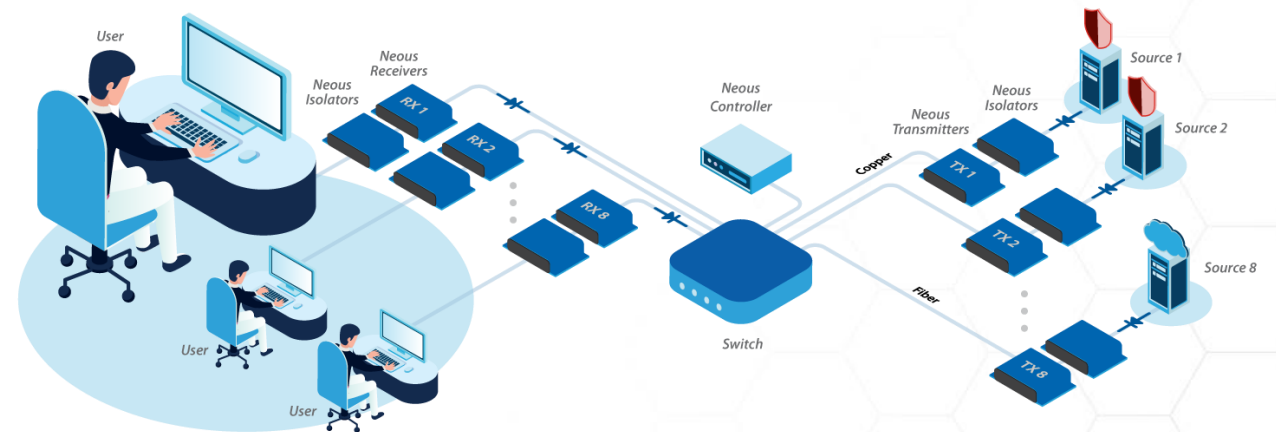
VIDEO MATRIX

- 4K, zero-latency
- Multiview support



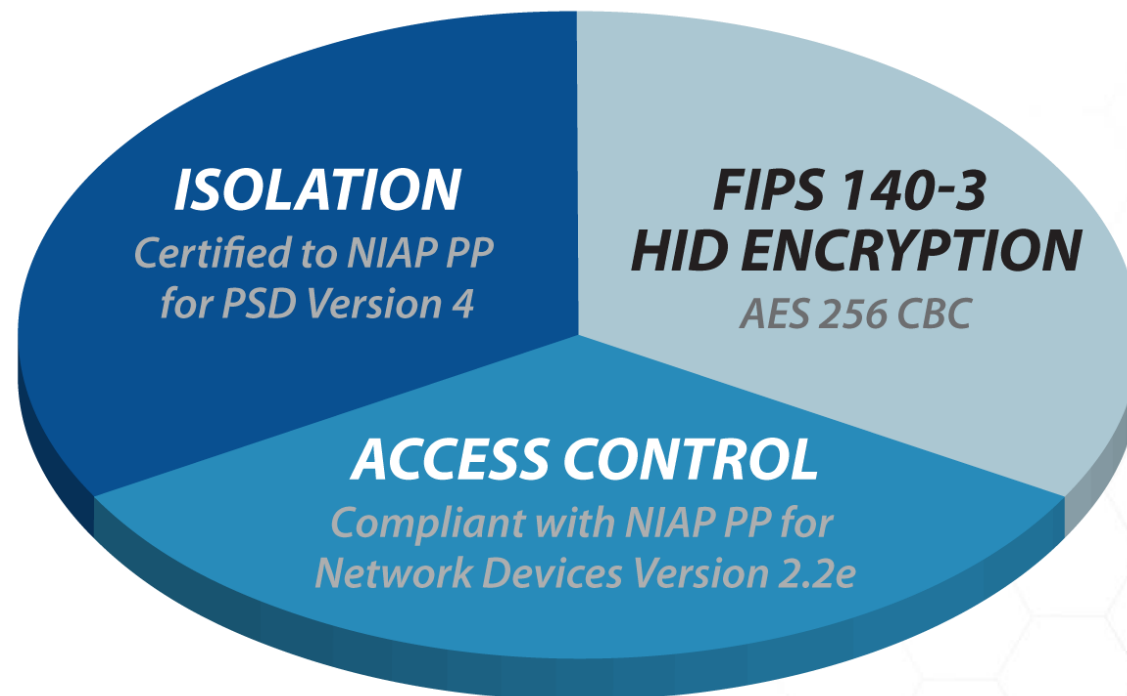
KVM MATRIX

- 4K, zero-latency
- FIPS 140-3 HID support including AES 256 CBC encryption
- Keyboard channel switching



KEY SECURITY FEATURES

- Host and destination isolation using **NIAP** compliant KVM and Video isolators create domain agnostic network for KVM & video matrix
- Isolator **auto-detect** enforces system use **only with isolators**.
- **FIPS 140-3** AES 256 CBC compliant encrypted **HID** traffic prevents man-in-the-middle attacks
- **Secure** EDID pass-through assures unidirectional information flow
- **802.1x NAC** prevents unknown connections
- **HTTPS** encrypted management communication
- MAC address authentication



NEOUS MULTI-DOMAIN MATRIX SOLUTION BUILDING BLOCKS

TRANSMITTER

- Video encoding. USB HID decoding (KVM matrix). Fiber & copper versions.

RECEIVER

- Video decoding and Multiview support (Video matrix). HID encoding (KVM matrix). Fiber & copper versions.

CONTROLLER + SW APPLICATIONS

- Defines KVM & Matrix multi-domain/cross-domain solutions. Implements permissions and NAC.

KVM/VIDEO ISOLATORS

- NIAP/Common Criteria certified isolators enforce unidirectional data flow. Neous auto-detects the presence of the Isolator and enforces operation ONLY with the Isolators. HID encryption/decryption (KVM matrix).

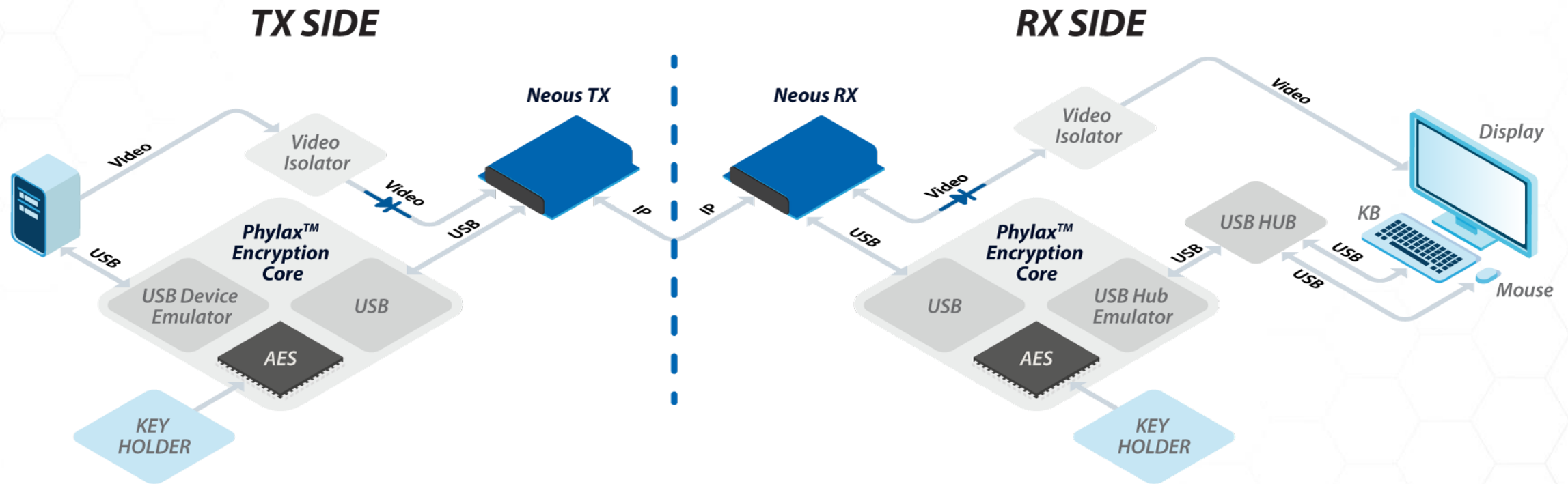


Secure Isolators



Controller

NEOUS NIAP PP4.0 ISOLATION & ENCRYPTION CORE

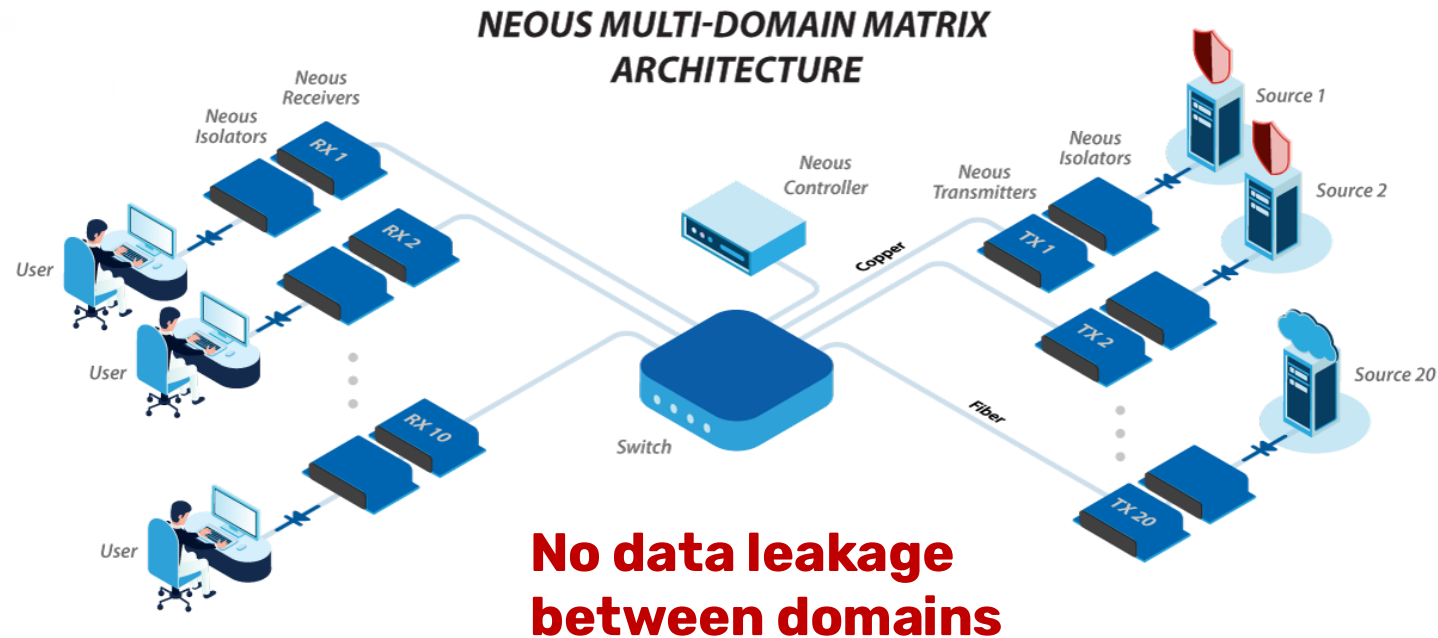


SECURE MULTI-DOMAIN KVM / VIDEO MATRIX

Neous Controller distributes keys between the Neous elements.

Controller maps users and sources, per permissions

Neous RX decodes video, implements Multiview (Video matrix) and encodes HID USB (KVM matrix)



Multiple sources on multiple domains, including non-secure Internet domain.

Neous **NIAP PP4.0** certified isolators ensure that data does not flow between sources.

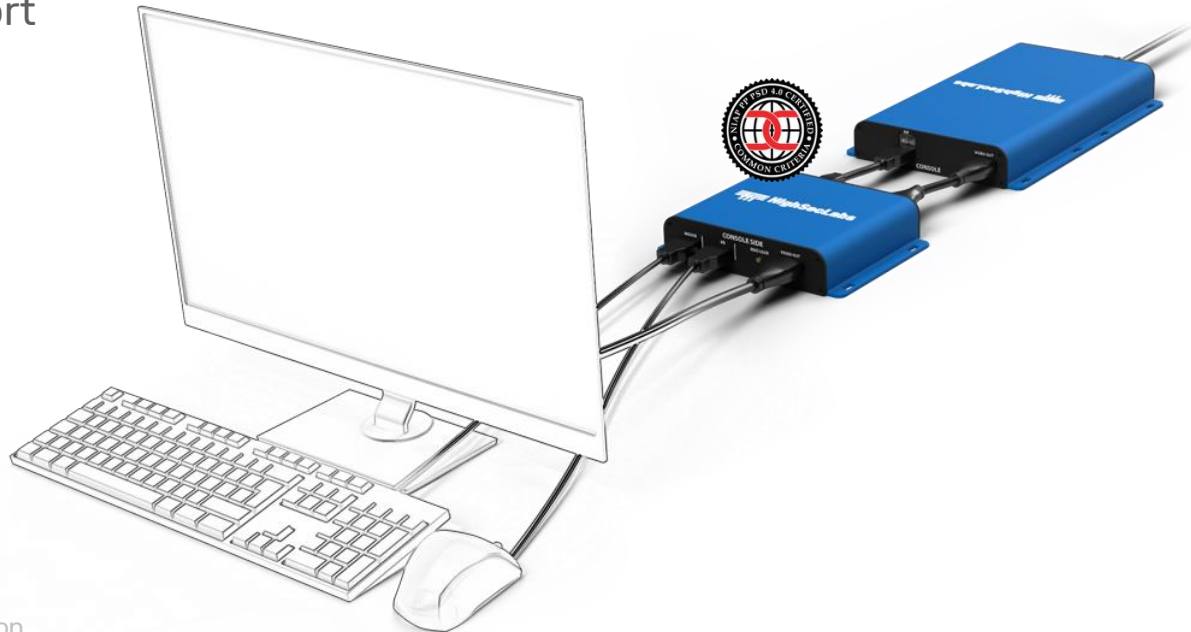
Neous TX encodes video and decodes HID USB (KVM matrix)

Auto-sensing removes source when isolator is disconnected.

KEY FEATURES – KVM MATRIX

Transmitter & Receiver Main Features

- DP/HDMI 4K30Hz 4,4,4
- USB HID Type B/A (TX/RX)
- 10Gb Ethernet for video/audio
- SFP+ port for fiber
- Encrypted USB HID: AES 256 CBC
- NAC, 802.1X, SSL



Controller Features

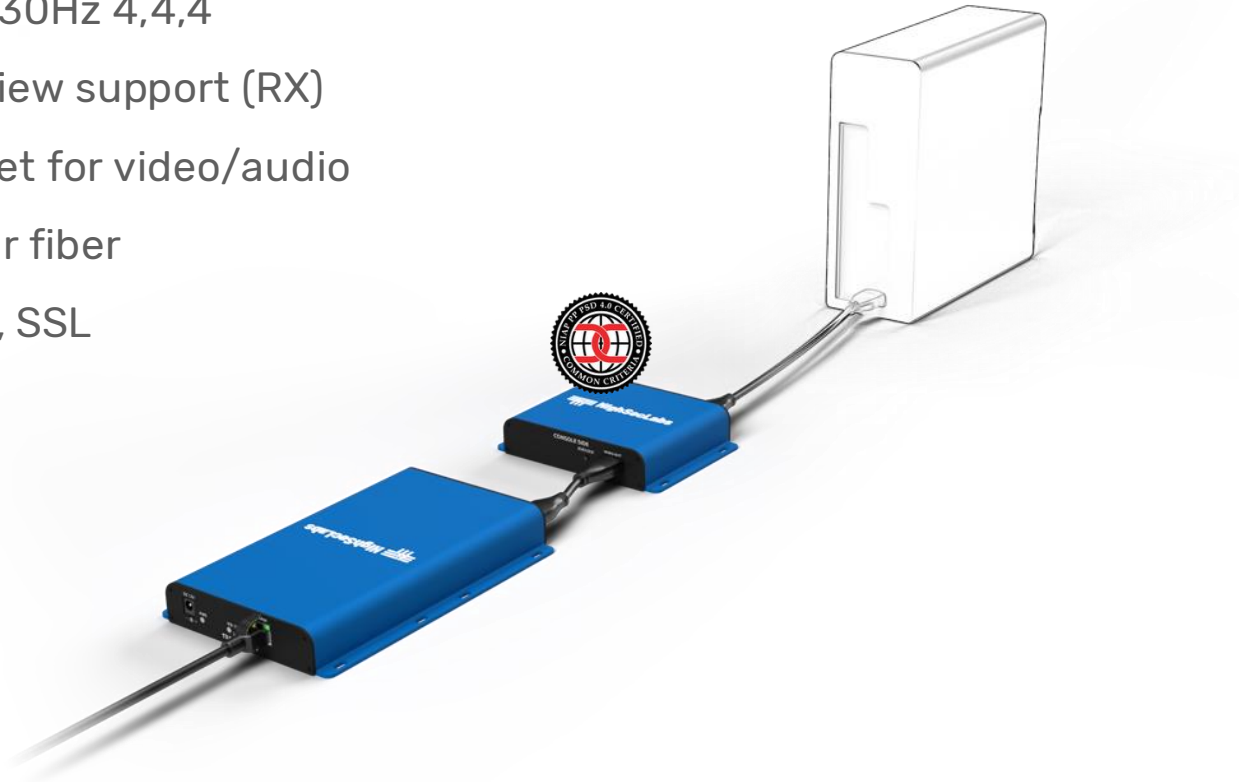
- KVM switching
- TX/RX configuration
- Permissions Management
- NAC



KEY FEATURES – VIDEO MATRIX

Transmitter & Receiver Main Features

- DP/HDMI 4K30Hz 4,4,4
- Video Multiview support (RX)
- 10Gb Ethernet for video/audio
- SFP+ port for fiber
- NAC, 802.1X, SSL



Controller Features

- Video only switching
- Multiview support
- TX/RX configuration
- Permissions Management
- NAC



NEOUS PRODUCTS

Model	Type	Features
SVFX10PHT-M	Neous Fiber Video Matrix TX with Linked Isolator	Video 4K30Hz; Enforced operation with Isolator; 10Gbps SFP+; DP/HDMI Combo source port; NIAP certified Isolator.
SVFX01PHR-M	Neous Fiber Video Matrix RX with Linked Isolator	Video 4K30Hz; Enforced operation with Isolator; 10Gbps SFP+; DP/HDMI Combo console port; Multiview support; NIAP certified Isolator
SVCX10PHT-M	Neous Copper Video Matrix TX with Linked Isolator	Video 4K30Hz; Enforced operation with Isolator; 10Gbps RJ45; DP/HDMI Combo source port; NIAP certified Isolator
SVCX01PHR-M	Neous Copper Video Matrix RX with Linked Isolator	Video 4K30Hz; Enforced operation with Isolator; 10Gbps RJ45; DP/HDMI Combo console port; Multiview support; NIAP certified Isolator
SKFX10PHT-M	Neous Fiber KVM Matrix TX with Linked Isolator	Video 4K30Hz; Enforced operation with Isolator; 10Gbps SFP+; DP/HDMI Combo source port; USB-B HID port; FIPS 140-3 compliant AES 256 CBC HID decryption; NIAP certified Isolator
SKFX01PHR-M	Neous Fiber KVM Matrix RX with Linked Isolator	Video 4K30Hz; Enforced operation with Isolator; 10Gbps SFP+; DP/HDMI Combo console port; 2x USB-A HID console port; FIPS 140-3 compliant AES 256 CBC HID encryption; NIAP certified Isolator
SKCX10PHT-M	Neous Copper KVM Matrix TX with Linked Isolator	Video 4K30Hz; Enforced operation with Isolator; 10Gbps RJ45; DP/HDMI Combo source port; USB-B HID port; FIPS 140-3 compliant AES 256 CBC HID decryption; NIAP certified Isolator
SKCX01PHR-M	Neous Copper KVM Matrix RX with Linked Isolator	Video 4K30Hz; Enforced operation with Isolator; 10Gbps RJ45; DP/HDMI Combo console port; 2x USB-A HID console port; FIPS 140-3 compliant AES 256 CBC HID encryption; NIAP certified Isolator
MCK11EC-M	Neous KVM Matrix Controller	Up to 150 end points

NEOUS HIGHLIGHTS

- **SECURE** matrix over IP solution
 - Multi-domain / cross-domain solution
 - Secure KVM/Video PP4.0 Isolators
 - Encryption of HID data
- Flexible, scalable, many-to-many solution
- TX/RX over copper & fiber infrastructure
- Upgradeable and customizable software defined architecture
- Zero latency
- Provision only the exact capacity needed today. Grow as required.



Certified Components

Thank You

For more info:



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