NEOUS
Secure KVM & Video Matrix Multi-Domain Solutions

A scalable solution for working securely with multiple sources of different classifications, using a single set of peripherals.

HLT33163 Rev 1.3

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NEOUS: SECURE MULTI-DOMAIN KVM/VIDEO MATRIX

- Neous is a KVM and Video Matrix

- Designed, built and **certified** for connecting sources of **different classification levels** on a single Matrix.

- Neous' **cross-domain** approach uses **HW** to ensure information integrity and isolation

- **FLEXIBLE** solution for multiple-user, multiple source classification level installations

- **AVAILABLE** in KVM and Video matrix solutions

- **NEOUS** grows as needs evolve. Just add another receiver or transmitter to increase capacity.

- **EXTENSIBLE** design for adding features through software upgrades

- **ZERO-LATENCY** 10Gbps solution

- **ALL DONE SECURELY**

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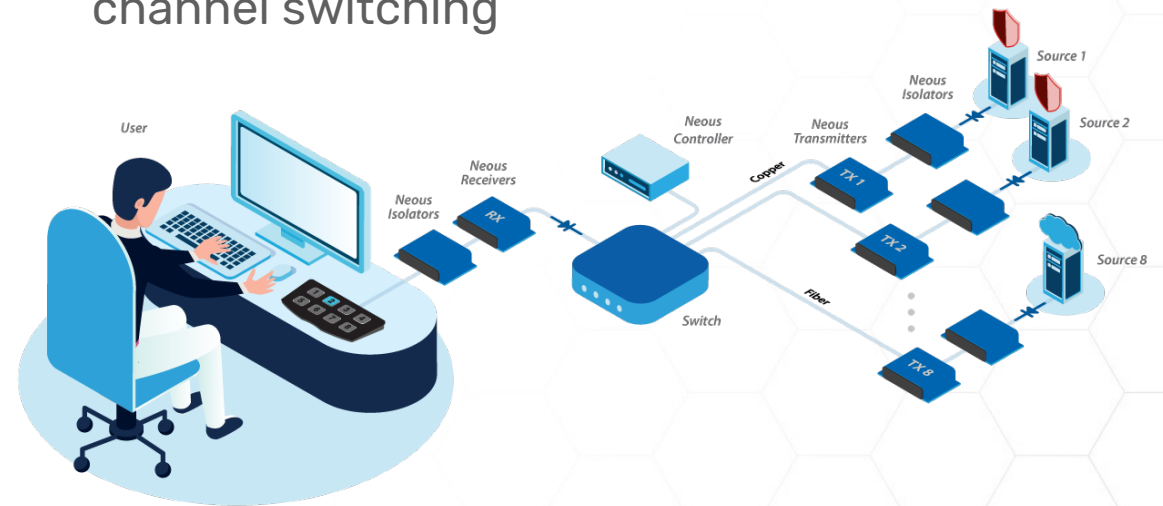# NEOUS: KVM MATRIX AND VIDEO MATRIX OPTIONS

VIDEO MATRIX

- 4K, zero-latency

- RS-232 remote control channel switching
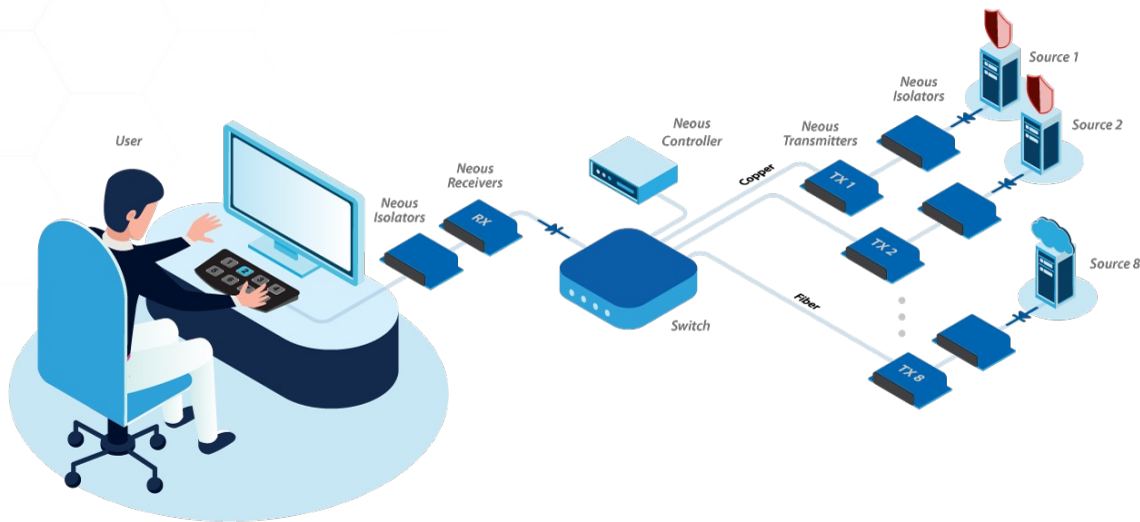
KVM MATRIX

- 4K, zero-latency

- HID support including FIPS 140-3 encryption

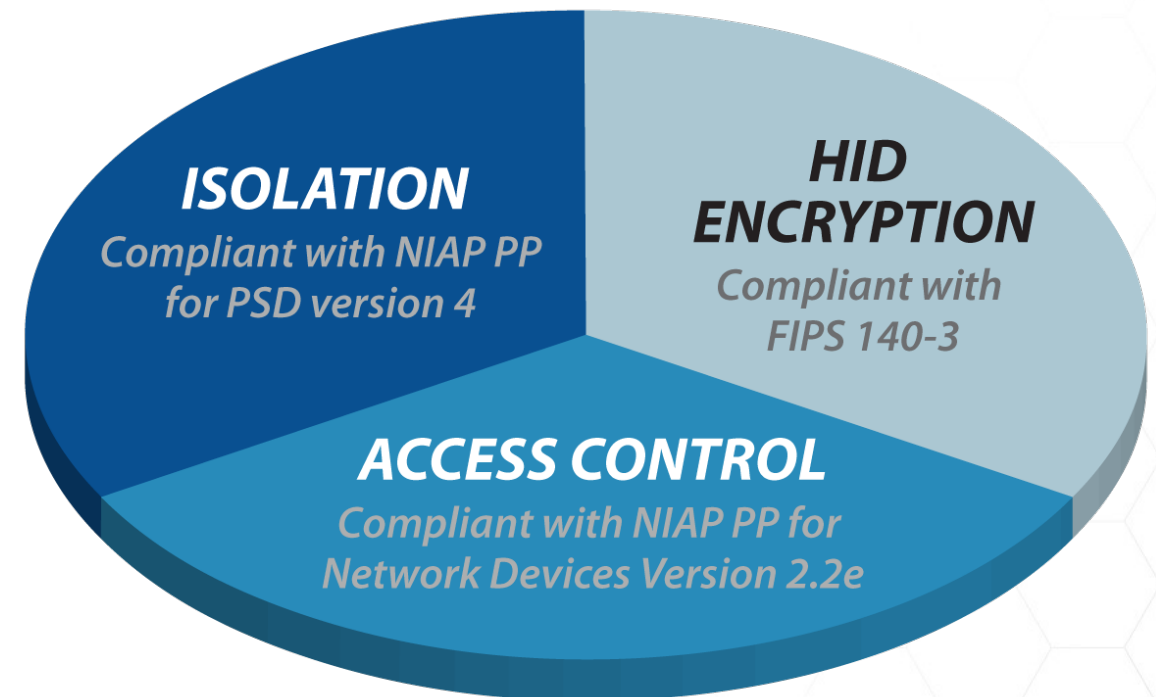- Keyboard and RS-232 remote control channel switching

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SECURE DISTRIBUTED CROSS-DOMAIN MATRIX ARCHITECTURE

- **SECURE** isolated multi-domain KVM/Video matrix solutions

- Prevents data leakage between domains in a **cross-domain/multi-classification** environment

- Scalable solutions for KVM & video using a set of dedicated building blocks and software applications.

- Uses **pre-certified** components and industry-standard tools assuring isolation and data leakage immunity.

- **NIAP/Common Criteria PP4.0 Certified Components**

NEOUS MULTI-DOMAIN MATRIX ARCHITECTURE

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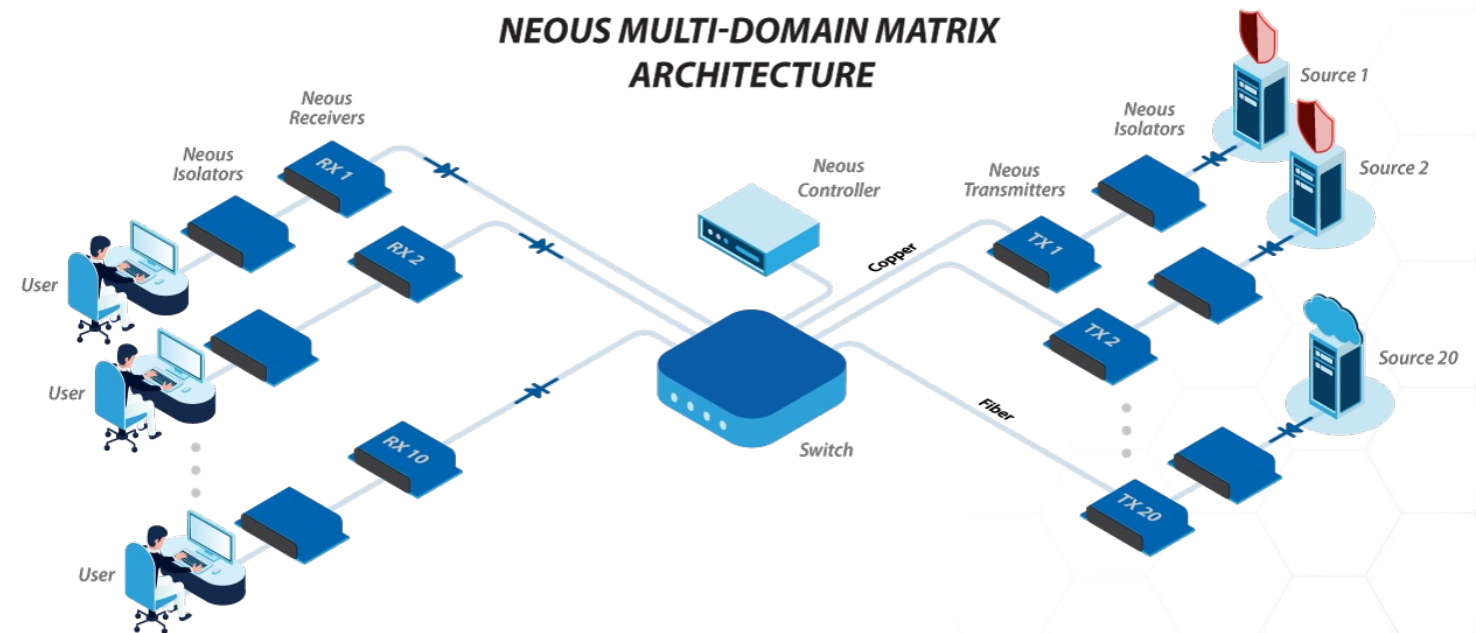
KEY SECURITY FEATURES

- 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** 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

ISOLATION
Compliant with NIAP PP for PSD version 4

HID ENCRYPTION
Compliant with FIPS 140-3

ACCESS CONTROL
Compliant with NIAP PP for Network Devices Version 2.2e

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NEOUS MULTI-DOMAIN MATRIX SOLUTION BUILDING BLOCKS

TRANSMITTER

- Video encoding. USB, RS-232 decoding.
  Fiber & copper versions.

RECEIVER

- Video decoding and USB, RS-232 decoding.
  Fiber & copper versions.

CONTROLLER + SW APPLICATIONS

- Defines KVM & Matrix multi-domain/ cross-domain
  solutions. Encrypts USB data transmitted to the sources.

KVM/VIDEO ISOLATORS

- NIAP/Common Criteria certified isolators enforce
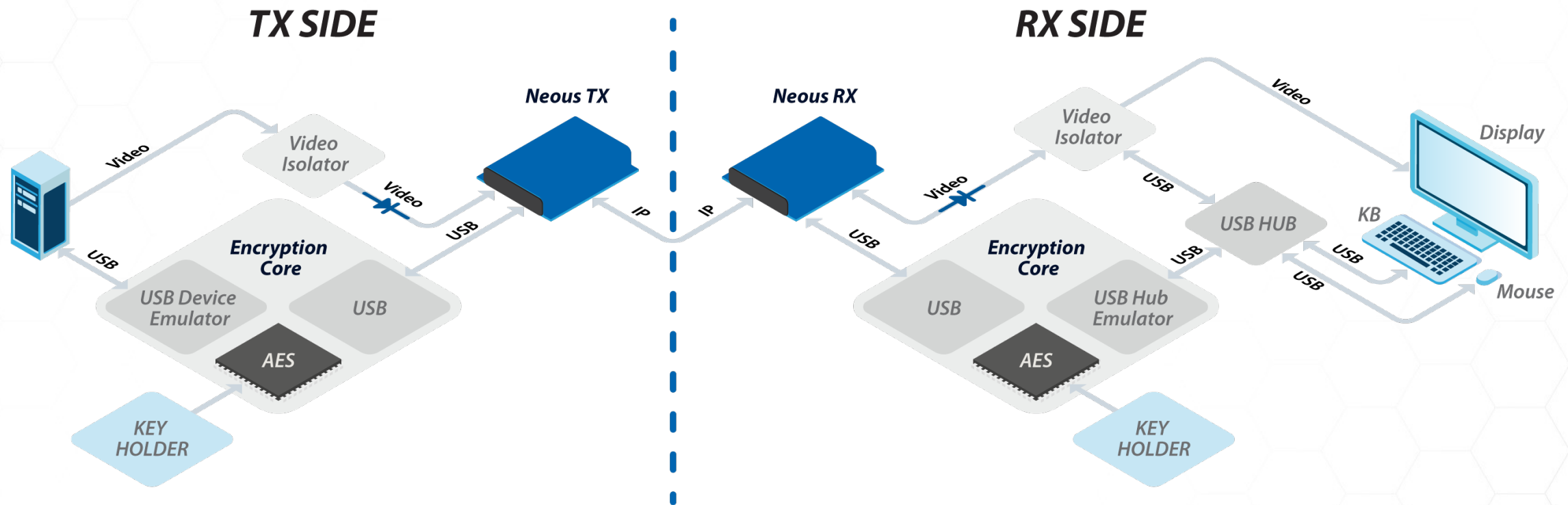 unidirectional data flow. HID encryption.

TX

RX

Secure Isolators

Controller

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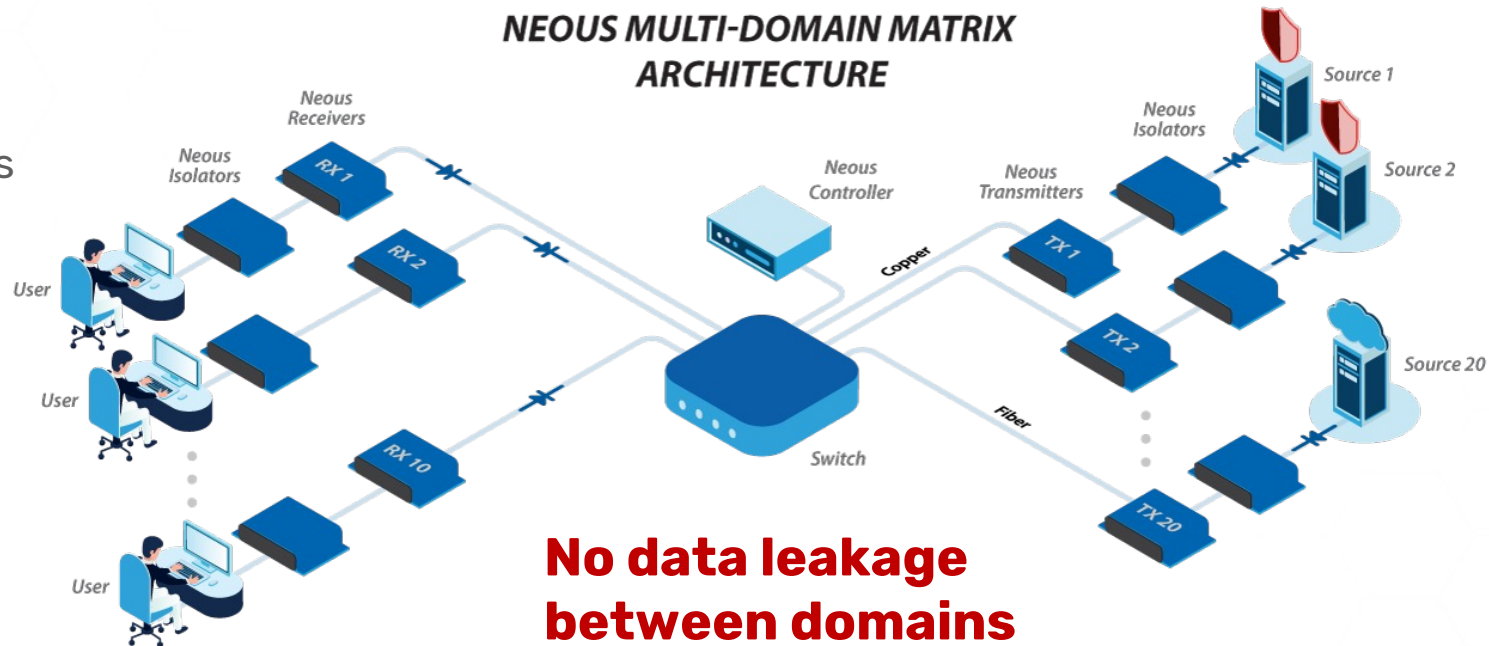Highest Security Solutions

NEOUS NIAP PP4.0 ISOLATION CORE

The Isolation Core is integrated into the Neous TX/RX or is available as stand-alone, add-on product.

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 and encodes USB/RS232

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 USB/RS232

NEOUS MULTI-DOMAIN MATRIX ARCHITECTURE

Neous Receivers

Neous Isolators

RX 1

RX 2

RX 10

User

User

User

Neous Controller

Copper

Switch

Fiber

Neous Transmitters

Neous Isolators

TX 1

TX 2

TX 20

Source 1

Source 2

Source 20

No data leakage between domains

Auto-sensing removes source when isolator is disconnected.

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NEOUS FLEXIBLE MATRIX SOLUTIONS

The Neous family of matrix applications:

- KVM Matrix

- Video Matrix

- Combiner (*combines* KVM, multi-viewer and scaler) Matrix*

*Coming Soon

KEY FEATURES – KVM/COMBINER MATRIX

Transmitter & Receiver Main Features

- DP/HDMI with HDCP pass through, 4K60Hz 4,4,4
- Encoded audio formats & LPCM up to 8 channels
- Unbalanced 2-channel stereo 3.5mm mini-jack
- IR: 3.5mm mini jacks I/O ports
- RS-232: Full duplex up to 115.2kbps terminal block
- USB HID Type B/A (TX/RX)
- 10Gb Ethernet for video/audio, 1Gb for control
- SFP+ port for fiber
- Encrypted USB HID: AES 128, ECDH, AES128 CTR, POLY1305, AES SHA256
- NAC, 802.1X, SSL

Controller Features

- KVM switching
- Video only switching
- USB only switching
- RS232 switching
- TX/RX configuration
- Permissions Management
- NAC

KEY FEATURES – VIDEO MATRIX

Transmitter & Receiver Main Features

- DP/HDMI with HDCP pass through, 4K60Hz 4,4,4

- Encoded audio formats & LPCM up to 8 channels

- IR: 3.5mm mini jacks I/O ports

- RS-232: Full duplex up to 115.2kbps terminal block

- 10Gb Ethernet for video/audio, 1Gb for control

- SFP+ port for fiber

- NAC, 802.1X, SSL

Controller Features

- Video only switching

- TX/RX configuration

- Permissions Management

- NAC

NEOUS PRODUCTS

Model	Type	Features
SIX10PHT-M	KVM Transmitter with embedded isolator and HID decryption	Full KVM transmitter
SIX01PHR-M	KVM Receiver with embedded isolator and HID encryption	Full KVM receiver
SKX10PHT-M	KVM Transmitter with external isolator and HID decryption	Full KVM transmitter. Provided as a set including the transmitter and the isolator/decryptor
SKX01PHR-M	KVM Receiver with external isolator and HID encryptor	Full KVM receiver. Provided as a set including the receiver and the isolator/encryptor
SVX10PHT-M	Video Transmitter with an external isolator	Video transmitter. Provided as a set including the transmitter and the isolator
SVX01PHR-M	Video Receiver with an external isolator	Video receiver. Provided as a set including the receiver and the isolator
MCK11EC-M	KVM Controller	Neous controller with a KVM matrix software load
MCV11EC-M	Video Controller	Neous controller with a Video matrix software load

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NEOUS HIGHLIGHTS

- **SECURE** matrix solution
  - Multi-domain / cross-domain solution
  - Secure KVM/Video PP4.0 Isolators
  - Encryption of USB/RS232 data
- Flexible, scalable, many-to-many solution
- TX/RX over copper & fiber infrastructure
- Upgradeable and customizable software defined architecture
- Fast switching for near-zero latency
- Provision only the exact capacity needed today. Grow as required.

Certified Components

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Thank You
For more info:

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