

# VISIONXS-CPU-F(S)-MC4-DP-UHR-DT 2.0

KVM extenders, Article number A1111094



The matrix-compatible KVM extenders of the VisionXS-DP-UHR 2.0 series extend keyboard, video, and mouse signals, as well as other peripheral data (e.g., audio and USB), via a dedicated CAT or fiber connection (up to 10,000 m). An extender system consists of a computer module (CPU) and a compatible console module (CON). Computers can be controlled in near real-time – both in extender and matrix applications. The VisionXS-DP-UHR 2.0 series supports DisplayPort1.2 for ultra-high-resolution video up to 4096 × 2160 (60 Hz) or 5120 × 2160 (50 Hz). Video data is processed pixel-perfectly and offers excellent hand-eye coordination, thanks to bluedec™ – G&D's advanced, multi-stage, lossless compression technology.

## SCOPE OF DELIVERY

| Quantity | Description                                                     | Article number |
|----------|-----------------------------------------------------------------|----------------|
| 1        | PowerCable-2 Standard cable 2m                                  | A6300057       |
| 4        | DP1.4-Cable-M/M-2 SK13357 2m                                    | A6300173       |
| 1        | TypeC-Service-Cable-M/M-2, 2m, USB Type-A / Type-C              | A6200112       |
| 1        | RS232-M/F-2 cable RS232 2m                                      | A6300023       |
| 2        | Audio-M/M-2-ferrite cable 2m                                    | A6300083       |
| 1        | Audio adapter cable, 1x 3.5mm jack plug to 2x 3.5mm jack socket | A3110017       |
| 1        | Safety instructions flyer - FCC class B                         | A9100371       |
| 1        | 19" RM-Set-VXS2.0-442_MP12TypeC-1RU                             | A7000072       |

## DETAILS

### VIDEO

- bluedec™ – advanced developed multi-stage compression for best video quality and practically latency-free transmission. This method enables pixel-perfect video transmission with efficient bandwidth use.
- The end devices can be flexibly combined with each other, even if they process different video signals (Mix & Match)
- EDID data utilization from the workplace monitor
- Flexible EDID profile options for optimized monitor settings
- Resolution up to
  - 5120 × 2160 @ 50 Hz,
  - 5120 × 1440 @ 60 Hz,
  - 4096 × 2160 @ 60 Hz,
  - 2560 × 1440 @ 144 Hz,
  - 1920 × 1080 @ 240 Hz

### SIGNALS

- Embedded stereo audio (DisplayPort Digital, 2 channel LPCM, AC3, DTS)
- Transparent bidirectional audio signals (stereo)
- Transparent RS232 (max. 115,200 bps)
- GenericUSB support for USB classes HID (Human Interface Device), SmartCard and mass storage
- The product allows the use of a GenericUSB device via a console module. For this, both the used console module and the used computer module must support the use of a GenericUSB device.

### TRANSMISSION

- The transmission distance is up to 10,000 meters over fiber singlemode optics, incl. transmission module(s)/SFP transceiver(s)

### DEVICE

- Improved security through physical separation between workplaces and computers
- Access to standard interfaces of the computer, with no software installation required
- New enclosure design with improved cooling, optimized interface placement, and robust surface finishing – for higher reliability and long service life even in demanding environments
- Compact design for space-saving installation within a VisionXS 2.0 DeviceCarrier (1 or 3 RU)
- The devices are compatible with the ControlCenter-Digital and ControlCenter-Compact series (matrix operation) and other end devices for computer and workplace connections (extender operation)
- PowerPack not included in the scope of delivery

- DT variant:
  - Power supply via internal power supply unit
  - In combination with an external power supply, a redundant power supply can be established
  - RS232 is provided as standard
- 2C/2F variant (comparable to UC/CON-2): Two transmission paths (CAT or Fiber) for redundancy
  - Computer modules can connect to various counterparts, such as compatible console modules or KVM matrix switches
  - Console modules can connect to different counterparts, such as compatible computer modules or KVM matrix switches, with switching controlled via hotkey or automatically depending on configuration
  - 2C/2F variants are never available with U2, since the second transmission interface is used for transmitting USB 2.0 data.
- LC variant: Optional local console on the CPU module including all video channels
  - In addition to the remote workplace, a full-featured local access point is available, providing direct access to all video and control channels.
  - Exclusive or concurrent operation  
Allows simultaneous use by optional local and remote workplaces. Input on one side temporarily locks the other. A key combination activates exclusive mode instantly; another releases shared access. The lock duration is configurable.
- Extended USB input side with TypeC and separate USB K/M interface – enables the optional physical separation of keyboard/mouse signals and USB data stream for enhanced security.

## WARRANTY

- A 3-year, free of charge product guarantee
- For an additional fee guarantee extension possible

## FEATURES

### SECURITY FEATURES

- Bootloader, operating system, and firmware form a "Trusted Computing Platform" with automatic integrity checks during system startup
- Integrated Trusted Platform Module (TPM) protects all access and configuration data from being spied on or tampered with by third parties
- Console modules do not store security-relevant information such as login credentials, which could be extracted in the event of device loss
- Monitoring of system states such as status, power supply, temperature and computer modules and console modules are monitored as well
- Each monitoring value can be enabled individually; critical states raise an alarm, which authorized users can acknowledge to downgrade it to warning level
- Syslog logging locally and to up to two servers, via TCP or UDP, with configurable port, eight severity levels per the syslog standard and ISO 8601 timestamps
- Logged events include user logins, failed login attempts, changes to user rights, connections to remote targets and failed backups
- SNMP agent supporting SNMPv2c and SNMPv3; for SNMPv3, authentication via SHA-1 through SHA-512, encryption with AES128, AES192 or AES256, and security levels up to authPriv
- Access to the SNMP agent can be restricted to defined source IP addresses or network segments (IPv4 and IPv6)
- SNMP notifications to multiple receivers, sent either as traps or as acknowledged informs, with a configurable severity threshold
- Comprehensive rights management and user administration, allowing precise control over which user can access which resources
- Option for activatable access protection (default operating mode in matrix systems), in which authentication is required before accessing computer sources
- Support for external directory services (Active Directory, Radius, LDAP) to meet company security policies
- To comply with individual password policies and improve security, password complexity can be configured system-wide
- Configurable login options, such as displaying terms of use or setting the maximum acceptable number of failed login attempts, can enhance system security
- Auto Backup Function: Automates backups at user-defined intervals and replaces manual intervention – ensuring reliable, timely data protection without the need for continuous monitoring
- Freeze function: If the video signal is lost, the last displayed image is frozen and highlighted with a colored frame and timer
- 2-Factor-Authentication (2FA) – is integrated by default in KVM extenders and enhances security by requiring a second, possession-based factor during user authentication:

- The traditional password authentication is combined with a time-limited, single-use code (Time-Based-One-Time-Password - TOTP)
- You can choose between using the internal authentication server provided in the device or an external directory service
- Authenticator apps or hardware token can be used
- This additional layer of protection prevents unauthorized access and ensures the highest level of security, particularly in sensitive IT environments

## OPERATION FEATURES

- Ready for operation out of the box, no additional configuration required
- Permanent keyboard/mouse emulation ensures a stable system
- Compatibility with special USB-HID input devices
- Operation via multilingual on-screen display (OSD) and hotkeys
- Configuration and update via the multilingual HTML5 web interface “Config Panel 21” (Java-free)
- Support of DDC/CI (Display Data Channel / Command Interface) to enable centralized software-side control of monitor settings such as brightness

## EXTENSIONS

### DEVICE

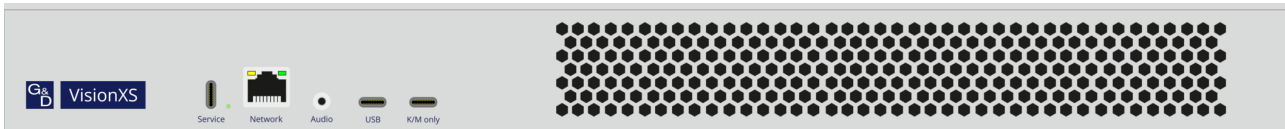
- External power supply via an external USB Type-C PD power pack or via the G&D MultiPower-12-TypeC, which ensures centralized and redundant power supply.
- Device mounting via RackMount sets, TableMount sets, G&D 19” DeviceCarrier for VisionXS 2.0 or other mounting tools

### SYSTEM EXTENSION

- You can integrate the matrix-compatible extenders into a complete installation with a ControlCenter-Compact or ControlCenter-Digital, even at a later point in time. This provides you with even greater flexibility through the possibility of distributed access – and the existing components can continue to be used.

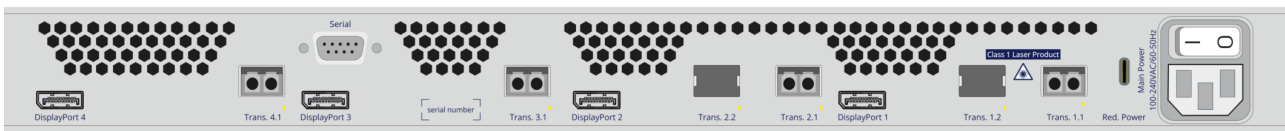
## INTERFACES

### FRONT



| Aperture designation | Design           | Description                                                                |
|----------------------|------------------|----------------------------------------------------------------------------|
| Service              | USB-C socket     | Connection for service purpose                                             |
| Network              | RJ45 socket      | Port for IP network                                                        |
| Audio                | 3,5-mm jack plug | Connection to computer - Audio                                             |
| USB                  | USB-C socket     | Connection to computer - USB                                               |
| K/M only             | USB-C socket     | Optional connection to computer - USB, only for keyboard and mouse signals |

### BACK



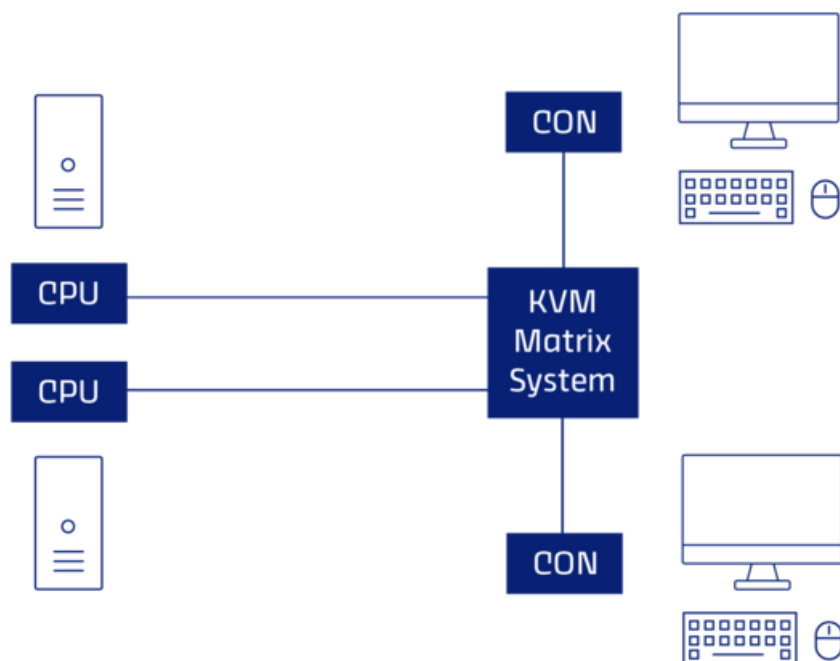
No interfaces available

## SCHEMATIC REPRESENTATION

### Dedicated extender operation



### Dedicated matrix operation



## TECHNICAL DATA

|              |                                 |                                                                |
|--------------|---------------------------------|----------------------------------------------------------------|
| General      | Brand                           | G&D                                                            |
|              | Product group                   | KVM extenders                                                  |
|              | Product Family                  | VisionXS 2.0                                                   |
|              | Country of origin               | Germany                                                        |
|              | KVM matrix system component     | Computer module (digital)                                      |
|              | Power Supply                    | Redundancy without load balancing                              |
| Transmission | Number of transmission channels | 4                                                              |
|              | Redundant transmission channels | no redundant KVM transmission                                  |
|              | Range                           | 10,000 m (9/125µm, OS1)                                        |
|              | Laser class                     | Class 1                                                        |
|              | Type of interface               | LC-Duplex                                                      |
|              | Wavelength                      | 1,310 nm                                                       |
|              | Medium                          | Fiber SM                                                       |
|              | Data rate                       | 2.5 Gbit/s                                                     |
| Video input  | Quantity                        | 4                                                              |
|              | Format                          | DisplayPort 1.2 (LBR, HBR, HBR2, SingleStream-Transport (SST)) |
|              | Colour depth                    | 24 bit                                                         |
|              | Pixel encoding                  | RGB 4:4:4 (24 bpp / 8 bpc)                                     |
|              | Pixel rate ca.                  | 25 MPixel/s to 600 MPixel/s                                    |

|         |                              |                                                                                                                                                                                                                                      |
|---------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         | Vertical frequency           | 24 Hz to 240 Hz                                                                                                                                                                                                                      |
|         | Horizontal frequency         | 25 kHz to 295 kHz                                                                                                                                                                                                                    |
|         | Exemplary resolutions        | 4096 × 2160 (60 Hz)<br>3840 × 2160 (60 Hz)<br>2560 × 1600 (60 Hz)<br>2560 × 1440 (144 Hz)<br>2048 × 2048 (60 Hz)<br>1920 × 1200 (60 Hz)<br>1920 × 1080 (240 Hz)<br>1920 × 1080 (60 Hz)<br>5120 × 1440 (60 Hz)<br>5120 × 2160 (50 Hz) |
|         | General Notes                | Further VESA and CTA standardised resolutions possible within pixel rate and horizontal/vertical frequency.                                                                                                                          |
|         | Supported industry standards | Display Data Channel Command Interface (DDC/CI)<br>Extended Display Identification Data (EDID)                                                                                                                                       |
| Audio 1 | Transmission type            | 2-channel LPCM<br>Stereo<br>DTS<br>AC3                                                                                                                                                                                               |
|         | Resolutions                  | 24 bit<br>20 bit<br>16 bit                                                                                                                                                                                                           |
|         | Sampling rate                | up to 48 kHz                                                                                                                                                                                                                         |
|         | Audio support                | Digital Embedded                                                                                                                                                                                                                     |
| Audio 2 | Transmission type            | Stereo<br>Transparent<br>Bidirectional                                                                                                                                                                                               |
|         | Resolutions                  | 24 bit digital                                                                                                                                                                                                                       |

|         |                                |                                                                       |
|---------|--------------------------------|-----------------------------------------------------------------------|
|         | Sampling rate                  | up to 96 kHz                                                          |
|         | Bandwidth                      | 22 kHz                                                                |
|         | Audio support                  | Analog                                                                |
| USB     | Separate USB transmission port | no                                                                    |
|         | Specification                  | USB 2.0                                                               |
|         | GenericUSB support             | 1 device                                                              |
|         | Medium                         | Embedded                                                              |
|         | Transmission rate              | max. 25 Mbit/s (Full Speed)                                           |
|         | USB classes                    | Mass Storage (MSC / UMS)<br>Human Interface Device (HID)<br>SmartCard |
| Serial  | Standard                       | RS232                                                                 |
|         | Transparent transmission       | yes                                                                   |
|         | Data rate                      | 115,200 bps                                                           |
|         | Signals                        | TxD<br>RxD<br>RTS<br>CTS<br>GND<br>5V                                 |
| Network | Quantity                       | 1                                                                     |
|         | Medium                         | CAT5<br>CAT6<br>CAT7                                                  |
|         | Data rate                      | 10 Mbit/s<br>100 Mbit/s                                               |

|                      |                                            |                                                                                                                                                                                                                                  |
|----------------------|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maintenance          | Update via                                 | ConfigPanel (Network)                                                                                                                                                                                                            |
|                      | Serviceport settings                       | 460800bps (8/N/1)                                                                                                                                                                                                                |
| Housing              | Material                                   | Sheet steel, powder-coated                                                                                                                                                                                                       |
|                      | Active cooling (fan)                       | yes                                                                                                                                                                                                                              |
|                      | Width ca.                                  | 441 mm                                                                                                                                                                                                                           |
|                      | Height ca.                                 | 44 mm                                                                                                                                                                                                                            |
|                      | Depth ca.                                  | 223 mm                                                                                                                                                                                                                           |
|                      | IP protection class                        | IP20                                                                                                                                                                                                                             |
| Operating conditions | Operating environment temperature          | 5 °C to 45 °C                                                                                                                                                                                                                    |
|                      | Operating air humidity, non-condensing     | 20 % to 80 %                                                                                                                                                                                                                     |
|                      | Area of application                        | Indoor use                                                                                                                                                                                                                       |
|                      | Maximum operating altitude above sea level | 3,048 m                                                                                                                                                                                                                          |
|                      | Storage environment temperature            | -20 °C to 60 °C                                                                                                                                                                                                                  |
|                      | Storage air humidity, non-condensing       | 15 % to 85 %                                                                                                                                                                                                                     |
|                      | MTBF                                       | 200,000 h at 25°C                                                                                                                                                                                                                |
|                      | Conformities                               | RoHS compliant (see downloads)<br>REACH compliant (see downloads)<br>FCC compliant (see manual)<br>CE compliant (see downloads)<br>UKCA compliant (see downloads)<br>TAA compliant (see downloads)<br>WEEE (reg. no. DE30763240) |

|                |                 |             |
|----------------|-----------------|-------------|
| Power supply 1 | Quantity        | 1           |
|                | Type            | Internal    |
|                | Input voltage   | 100-240 VAC |
|                | Input frequency | 60-50 Hz    |
| Power supply 2 | Quantity        | 1           |
|                | Type            | External    |



## ACCESSORY PRODUCTS

| Image                                                                             | Description                                                                                                                           | Article number |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------|
|  | <b>PowerPack USB PD TypeC max. 65W 5V-20V</b><br>USB TypeC power supply with power delivery, max. 65W, 5V-20V,<br>incl. power cable   | A4110063       |
|  | <b>PowerPack USB PD TypeC max. 100W 5V-20V</b><br>USB TypeC power supply with power delivery, max. 100W, 5V-20V,<br>incl. power cable | A4110065       |

## MORE VARIANTS

| Description                                                                                                                                                                       | Article number |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>VisionXS-CPU-2F(S)-DP-UHR-DT 2.0</b><br>Redundant Computer module for the transmission of DisplayPort1.2 signals to 2 different counterpart stations via fiber singlemode      | A1111121       |
| <b>VisionXS-CPU-2F(S)-DP-UHR-LC-DT 2.0</b><br>Redundant Computer module for the transmission of DisplayPort1.2 signals to 2 different counterpart stations via fiber singlemode   | A1111106       |
| <b>VisionXS-CPU-2F(S)-DP-UHR-LC-U-DT 2.0</b><br>Redundant Computer module for the transmission of DisplayPort1.2 signals to 2 different counterpart stations via fiber singlemode | A1111097       |
| <b>VisionXS-CPU-2F(S)-DP-UHR-U-DT 2.0</b><br>Redundant Computer module for the transmission of DisplayPort1.2 signals to 2 different counterpart stations via fiber singlemode    | A1111112       |
| <b>VisionXS-CPU-F(S)-DP-UHR-DT 2.0</b><br>Computer module for the transmission of DisplayPort1.2 signals via fiber singlemode                                                     | A1111124       |
| <b>VisionXS-CPU-F(S)-DP-UHR-LC-DT 2.0</b><br>Computer module for the transmission of DisplayPort1.2 signals via fiber singlemode                                                  | A1111109       |
| <b>VisionXS-CPU-F(S)-DP-UHR-LC-U-DT 2.0</b><br>Computer module for the transmission of DisplayPort1.2 signals via fiber singlemode                                                | A1111100       |
| <b>VisionXS-CPU-F(S)-DP-UHR-LC-U2-DT 2.0</b><br>Computer module for the transmission of DisplayPort1.2 signals via fiber singlemode                                               | A1111103       |
| <b>VisionXS-CPU-F(S)-DP-UHR-U-DT 2.0</b><br>Computer module for the transmission of DisplayPort1.2 signals via fiber singlemode                                                   | A1111115       |
| <b>VisionXS-CPU-F(S)-DP-UHR-U2-DT 2.0</b><br>Computer module for the transmission of DisplayPort1.2 signals via fiber singlemode                                                  | A1111118       |
| <b>VisionXS-CPU-F(S)-MC2-DP-UHR-DT 2.0</b><br>Computer module for the transmission of DisplayPort1.2 signals via fiber singlemode                                                 | A1111076       |
| <b>VisionXS-CPU-F(S)-MC2-DP-UHR-LC-DT 2.0</b><br>Computer module for the transmission of DisplayPort1.2 signals via fiber singlemode                                              | A1111067       |

| Description                                                                                                                             | Article number |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>VisionXS-CPU-F(S)-MC2-DP-UHR-LC-U-DT 2.0</b><br>Computer module for the transmission of DisplayPort1.2 signals via fiber singlemode  | A1111061       |
| <b>VisionXS-CPU-F(S)-MC2-DP-UHR-LC-U2-DT 2.0</b><br>Computer module for the transmission of DisplayPort1.2 signals via fiber singlemode | A1111064       |
| <b>VisionXS-CPU-F(S)-MC2-DP-UHR-U-DT 2.0</b><br>Computer module for the transmission of DisplayPort1.2 signals via fiber singlemode     | A1111070       |
| <b>VisionXS-CPU-F(S)-MC2-DP-UHR-U2-DT 2.0</b><br>Computer module for the transmission of DisplayPort1.2 signals via fiber singlemode    | A1111073       |
| <b>VisionXS-CPU-F(S)-MC4-DP-UHR-LC-DT 2.0</b><br>Computer module for the transmission of DisplayPort1.2 signals via fiber singlemode    | A1111085       |
| <b>VisionXS-CPU-F(S)-MC4-DP-UHR-LC-U-DT 2.0</b><br>Computer module for the transmission of DisplayPort1.2 signals via fiber singlemode  | A1111079       |
| <b>VisionXS-CPU-F(S)-MC4-DP-UHR-LC-U2-DT 2.0</b><br>Computer module for the transmission of DisplayPort1.2 signals via fiber singlemode | A1111082       |
| <b>VisionXS-CPU-F(S)-MC4-DP-UHR-U-DT 2.0</b><br>Computer module for the transmission of DisplayPort1.2 signals via fiber singlemode     | A1111088       |
| <b>VisionXS-CPU-F(S)-MC4-DP-UHR-U2-DT 2.0</b><br>Computer module for the transmission of DisplayPort1.2 signals via fiber singlemode    | A1111091       |

# CONTACT

## WE ARE HERE FOR YOU!

If you have any further questions, we are looking forward to advising you on your individual project requirements.

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