# VISIONXS-CPU-F(M)-DP-UHR-LC-U-DT 2.0

KVM extenders, Article number A1111099



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 |
| 1 | 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 |

# 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
- 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.
- Embedded USB 2.0 with Full Speed, transparent, all USB classes

## TRANSMISSION

- The transmission distance is up to 400 meters over fiber multimode 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.

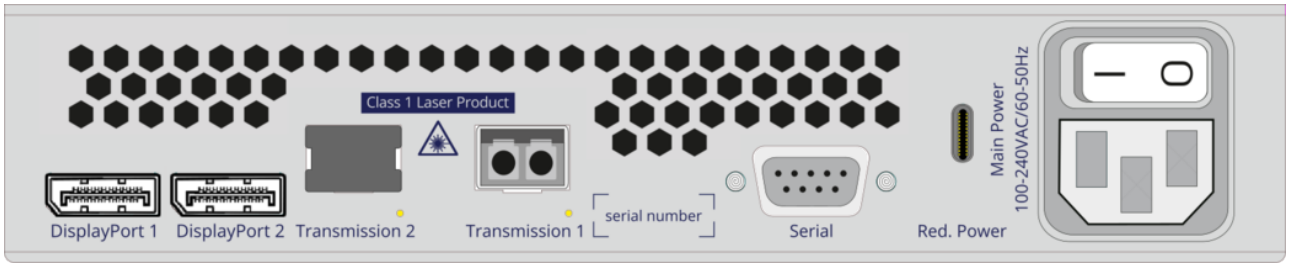
# INTERFACES

## 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 |
| Keyb./Mouse | USB A socket | Port for keyboard and mouse |

## BACK



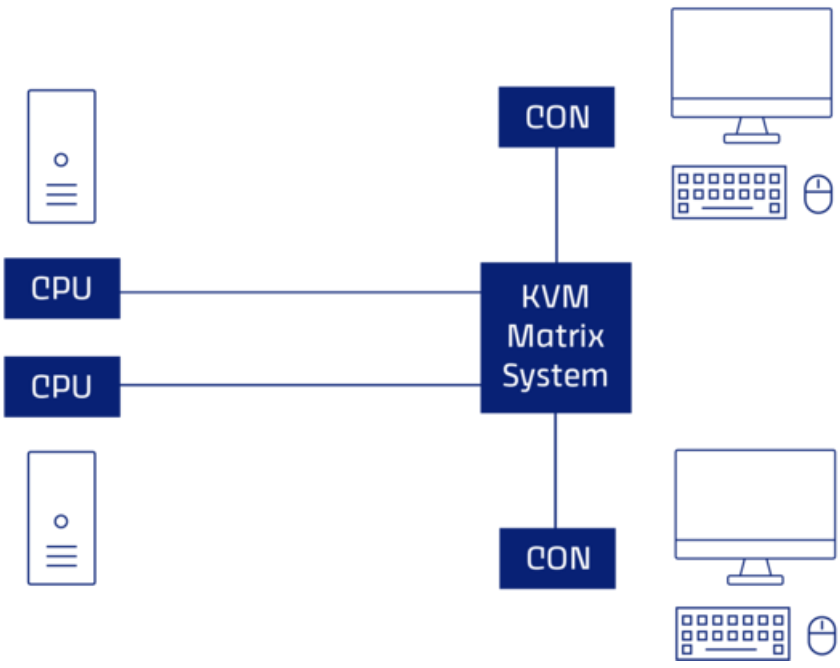

| Aperture designation | Design | Description |
|---|---|---|
| DisplayPort 1 | DisplayPort socket | Connection to computer - Video |
| DisplayPort 2 | DisplayPort socket | Port for monitor |
| Transmission 1 | LC Duplex socket | Data transmission to console module or matrix switch (FIBER) |
| Serial | D-Sub9 socket | Connection to computer - serial data |
| Red. Power | USB-C socket | Power supply USB-PD (Power Delivery) redundant |
| Main Power | IEC plug 320 C14 | Power supply AC |

# 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 |
| | Number of workplaces | 1 |
| | KVM matrix system component | Computer module (digital) |
| | Power Supply | Redundancy without load balancing |
| Input options | USB mouse | yes |
| | USB keyboard | yes |
| Transmission | Number of transmission channels | 1 |
| | Redundant transmission channels | no redundant KVM transmission |
| | Range | 100 m (62.5/125µm)<br>200 m (50.0/125µm, OM2)<br>400 m (50.0/125µm, OM3)<br>70 m (62.5/125µm)<br>150 m (50.0/125µm)<br>400 m (50.0/125µm, OM4 - 4700MHz*km) |
| | Laser class | Class 1 |
| | Type of interface | LC-Duplex |
| | Wavelength | 850 nm |
| | Medium | Fiber MM |
| | Data rate | 2.5 Gbit/s |

| | | |
|---|---|---|
| **Video input** | Quantity | 1 |
| | 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) |
| **Video output** | Quantity | 1 |
| | 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 1 | 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 |
| USB 2 | Specification | USB 2.0 |
| | Medium | Embedded |
| | Transmission rate | max. 16 Mbit/s (app. Full Speed) |
| | Range | max. 400 m |
| | USB classes | All |
| 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. | 215 mm / 8.46 in |
| | Height ca. | 44 mm / 1.73 in |
| | Depth ca. | 222 mm / 8.74 in |
| | IP protection class | IP20 |
| Operating conditions | Operating environment temperature | 5 °C to 45 °C / 41 °F to 113 °F |
| | 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 / -4 °F to 140 °F |
| | Storage air humidity, non-condensing | 15 % to 85 % |
| | MTBF | 200,000 h at 25°C (77 °F) |
| | 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 |
|---|---|---|
| | **PowerPack USB PD TypeC max. 65W 5V-20V**<br>USB TypeC power supply with power delivery, max. 65W, 5V-20V, incl. power cable | A4110063 |
| | **PowerPack USB PD TypeC max. 100W 5V-20V**<br>USB TypeC power supply with power delivery, max. 100W, 5V-20V, incl. power cable | A4110065 |

# MORE VARIANTS

| Description | Article number |
|---|---|
| **VisionXS-CPU-2F(M)-DP-UHR-DT 2.0**<br>Redundant Computer module for the transmission of DisplayPort1.2 signals to 2 different counterpart stations via fiber multimode | A1111120 |
| **VisionXS-CPU-2F(M)-DP-UHR-LC-DT 2.0**<br>Redundant Computer module for the transmission of DisplayPort1.2 signals to 2 different counterpart stations via fiber multimode | A1111105 |
| **VisionXS-CPU-2F(M)-DP-UHR-LC-U-DT 2.0**<br>Redundant Computer module for the transmission of DisplayPort1.2 signals to 2 different counterpart stations via fiber multimode | A1111096 |
| **VisionXS-CPU-2F(M)-DP-UHR-U-DT 2.0**<br>Redundant Computer module for the transmission of DisplayPort1.2 signals to 2 different counterpart stations via fiber multimode | A1111111 |
| **VisionXS-CPU-F(M)-DP-UHR-DT 2.0**<br>Computer module for the transmission of DisplayPort1.2 signals via fiber multimode | A1111123 |
| **VisionXS-CPU-F(M)-DP-UHR-LC-DT 2.0**<br>Computer module for the transmission of DisplayPort1.2 signals via fiber multimode | A1111108 |
| **VisionXS-CPU-F(M)-DP-UHR-LC-U2-DT 2.0**<br>Computer module for the transmission of DisplayPort1.2 signals via fiber multimode | A1111102 |
| **VisionXS-CPU-F(M)-DP-UHR-U-DT 2.0**<br>Computer module for the transmission of DisplayPort1.2 signals via fiber multimode | A1111114 |
| **VisionXS-CPU-F(M)-DP-UHR-U2-DT 2.0**<br>Computer module for the transmission of DisplayPort1.2 signals via fiber multimode | A1111117 |
| **VisionXS-CPU-F(M)-MC2-DP-UHR-DT 2.0**<br>Computer module for the transmission of DisplayPort1.2 signals via fiber multimode | A1111075 |
| **VisionXS-CPU-F(M)-MC2-DP-UHR-LC-DT 2.0**<br>Computer module for the transmission of DisplayPort1.2 signals via fiber multimode | A1111066 |
| **VisionXS-CPU-F(M)-MC2-DP-UHR-LC-U-DT 2.0**<br>Computer module for the transmission of DisplayPort1.2 signals via fiber multimode | A1111060 |

| Description | Article number |
|---|---|
| **VisionXS-CPU-F(M)-MC2-DP-UHR-LC-U2-DT 2.0**<br>Computer module for the transmission of DisplayPort1.2 signals via fiber multimode | A1111063 |
| **VisionXS-CPU-F(M)-MC2-DP-UHR-U-DT 2.0**<br>Computer module for the transmission of DisplayPort1.2 signals via fiber multimode | A1111069 |
| **VisionXS-CPU-F(M)-MC2-DP-UHR-U2-DT 2.0**<br>Computer module for the transmission of DisplayPort1.2 signals via fiber multimode | A1111072 |
| **VisionXS-CPU-F(M)-MC4-DP-UHR-DT 2.0**<br>Computer module for the transmission of DisplayPort1.2 signals via fiber multimode | A1111093 |
| **VisionXS-CPU-F(M)-MC4-DP-UHR-LC-DT 2.0**<br>Computer module for the transmission of DisplayPort1.2 signals via fiber multimode | A1111084 |
| **VisionXS-CPU-F(M)-MC4-DP-UHR-LC-U-DT 2.0**<br>Computer module for the transmission of DisplayPort1.2 signals via fiber multimode | A1111078 |
| **VisionXS-CPU-F(M)-MC4-DP-UHR-LC-U2-DT 2.0**<br>Computer module for the transmission of DisplayPort1.2 signals via fiber multimode | A1111081 |
| **VisionXS-CPU-F(M)-MC4-DP-UHR-U-DT 2.0**<br>Computer module for the transmission of DisplayPort1.2 signals via fiber multimode | A1111087 |
| **VisionXS-CPU-F(M)-MC4-DP-UHR-U2-DT 2.0**<br>Computer module for the transmission of DisplayPort1.2 signals via fiber multimode | A1111090 |

# 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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