

# VISIONXS-CPU-2F(S+)-DP-HR-DH-U-DT 2.0

KVM extenders, Article number A1110810



The matrix-compatible KVM extenders of the VisionXS-DP-HR 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-HR 2.0 series supports DisplayPort 1.1 for high-resolution video up to 2560 x 1600 (60 Hz) or 4096 x 2160 (30 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       |
| 2        | DPI.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  
2560 • 1600 @ 60 Hz,  
4096 • 2160 @ 30 Hz

### SIGNALS

- Embedded stereo audio (DisplayPort Digital, 2 channel LPCM, AC3, DTS, sampling rate up to 192 kHz)
- 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 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.
- 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
- Early detection of security incidents or unusual activities through continuous monitoring via Syslog, monitoring, and SNMP
- 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                                             |
| All USB CPU          | USB-C socket     | Connection to computer - USB                                               |
| K/M USB CPU          | USB-C socket     | Optional connection to computer - USB, only for keyboard and mouse signals |

## BACK



| Aperture designation | Design             | Description                                                            |
|----------------------|--------------------|------------------------------------------------------------------------|
| DisplayPort 1        | DisplayPort socket | Connection to computer - Video                                         |
| DisplayPort 2        | DisplayPort socket | Connection to computer - Video                                         |
| Transmission 2       | LC Duplex socket   | Data transmission to console module or matrix switch redundant (FIBER) |
| Transmission 1       | LC Duplex socket   | Data transmission to console module or matrix switch (FIBER)           |
| Serial               | D-Sub 9 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      | Product group                   | KVM extenders                                                                                                                                                                                                                      |
|              | Product Family                  | VisionXS 2.0                                                                                                                                                                                                                       |
|              | KVM matrix system component     | Computer module (digital)                                                                                                                                                                                                          |
| Transmission | Number of transmission channels | 1                                                                                                                                                                                                                                  |
|              | Redundant transmission channels | Redundant KVM transmission available                                                                                                                                                                                               |
|              | 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                        | 2                                                                                                                                                                                                                                  |
|              | Format                          | DisplayPort 1.1 (HBR)                                                                                                                                                                                                              |
|              | Colour depth                    | 24 bit                                                                                                                                                                                                                             |
|              | Pixel rate ca.                  | 25 MPixel/s to 300 MPixel/s                                                                                                                                                                                                        |
|              | Vertical frequency              | 24 Hz to 120 Hz                                                                                                                                                                                                                    |
|              | Horizontal frequency            | 25 kHz to 185 kHz                                                                                                                                                                                                                  |
|              | Exemplary resolutions           | 4096 • 2160 (30 Hz)<br>4096 • 2160 (25 Hz)<br>4096 • 2160 (24 Hz)<br>3840 • 2160 (30 Hz)<br>3840 • 2160 (25 Hz)<br>3840 • 2160 (24 Hz)<br>2560 • 1600 (60 Hz)<br>2048 • 2048 (60 Hz)<br>1920 • 1200 (60 Hz)<br>1920 • 1080 (60 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 192 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   | Separate USB transmission port | no                                                                    |
|         | Specification                  | USB 2.0                                                               |
|         | Medium                         | Embedded                                                              |
|         | Transmission rate              | max. 16 Mbit/s (app. Full Speed)                                      |
|         | Range                          | max. 10,000 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                       | 115200bps (8/N/1)                                                                               |
| Housing              | Material                                   | Sheet steel, powder-coated                                                                      |
|                      | Width ca.                                  | 215 mm                                                                                          |
|                      | Height ca.                                 | 44 mm                                                                                           |
|                      | Depth ca.                                  | 222 mm                                                                                          |
|                      | IP protection class                        | IP20                                                                                            |
| Operating conditions | Operating 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 temperature                        | -20 °C to 60 °C                                                                                 |
|                      | Storage air humidity, non-condensing       | 15 % to 85 %                                                                                    |
|                      | Conformities                               | RoHS compliant (see downloads)<br>REACH compliant (see downloads)<br>FCC compliant (see manual) |

## MORE VARIANTS

| Description                                                                                                                                                                  | Article number |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>VisionXS-CPU-2F(S)-DP-HR 2.0</b><br>Redundant Computer module for the transmission of DisplayPort signals to 2 different counterpart stations via fiber singlemode+       | A1110882       |
| <b>VisionXS-CPU-2F(S)-DP-HR-DH 2.0</b><br>Redundant Computer module for the transmission of DisplayPort signals to 2 different counterpart stations via fiber singlemode+    | A1110842       |
| <b>VisionXS-CPU-2F(S)-DP-HR-DH-DT 2.0</b><br>Redundant Computer module for the transmission of DisplayPort signals to 2 different counterpart stations via fiber singlemode+ | A1110834       |
| <b>VisionXS-CPU-2F(S)-DP-HR-DH-U 2.0</b><br>Redundant Computer module for the transmission of DisplayPort signals to 2 different counterpart stations via fiber singlemode+  | A1110818       |
| <b>VisionXS-CPU-2F(S)-DP-HR-DT 2.0</b><br>Redundant Computer module for the transmission of DisplayPort signals to 2 different counterpart stations via fiber singlemode+    | A1110874       |
| <b>VisionXS-CPU-2F(S)-DP-HR-U 2.0</b><br>Redundant Computer module for the transmission of DisplayPort signals to 2 different counterpart stations via fiber singlemode+     | A1110858       |
| <b>VisionXS-CPU-2F(S)-DP-HR-U-DT 2.0</b><br>Redundant Computer module for the transmission of DisplayPort signals to 2 different counterpart stations via fiber singlemode+  | A1110850       |
| <b>VisionXS-CPU-F(S)-DP-HR 2.0</b><br>Computer module for the transmission of DisplayPort signals via fiber singlemode+                                                      | A1110886       |
| <b>VisionXS-CPU-F(S)-DP-HR-DH 2.0</b><br>Computer module for the transmission of DisplayPort signals via fiber singlemode+                                                   | A1110846       |
| <b>VisionXS-CPU-F(S)-DP-HR-DH-DT 2.0</b><br>Computer module for the transmission of DisplayPort signals via fiber singlemode+                                                | A1110838       |
| <b>VisionXS-CPU-F(S)-DP-HR-DH-U 2.0</b><br>Computer module for the transmission of DisplayPort signals via fiber singlemode+                                                 | A1110822       |
| <b>VisionXS-CPU-F(S)-DP-HR-DH-U-DT 2.0</b><br>Computer module for the transmission of DisplayPort signals via fiber singlemode+                                              | A1110814       |
| <b>VisionXS-CPU-F(S)-DP-HR-DH-U2 2.0</b><br>Computer module for the transmission of DisplayPort signals via fiber singlemode+                                                | A1110830       |
| <b>VisionXS-CPU-F(S)-DP-HR-DH-U2-DT 2.0</b><br>Computer module for the transmission of DisplayPort signals via fiber singlemode+                                             | A1110826       |
| <b>VisionXS-CPU-F(S)-DP-HR-DT 2.0</b><br>Computer module for the transmission of DisplayPort signals via fiber singlemode+                                                   | A1110878       |
| <b>VisionXS-CPU-F(S)-DP-HR-U 2.0</b><br>Computer module for the transmission of DisplayPort signals via fiber singlemode+                                                    | A1110862       |
| <b>VisionXS-CPU-F(S)-DP-HR-U-DT 2.0</b><br>Computer module for the transmission of DisplayPort signals via fiber singlemode+                                                 | A1110854       |
| <b>VisionXS-CPU-F(S)-DP-HR-U2 2.0</b><br>Computer module for the transmission of DisplayPort signals via fiber singlemode+                                                   | A1110870       |
| <b>VisionXS-CPU-F(S)-DP-HR-U2-DT 2.0</b><br>Computer module for the transmission of DisplayPort signals via fiber singlemode+                                                | A1110866       |

## 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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