

# VISIONXS-CPU-F(S+)-DP-HR-DH-A

KVM extenders, Article number A1110538



The matrix-compatible KVM extenders of the VisionXS-DP-HR 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 series supports DisplayPort 1.1 for high-resolution video up to 2560 × 1600 (60 Hz) or 4096 × 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 |
|----------|------------------------------|----------------|
| 2        | DP1.4-Cable-M/M-2 SK13357 2m | A6300173       |
| 1        | USB-AM/BM-2 cable USB 2m     | A6300113       |
| 1        | Audio-M/M-2-ferrite cable 2m | A6300083       |

## 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
- The DualHead variant (DH) allows the transmission of two separate video signals via one transmission cable. Both video channels support embedded audio.
  - Two-channel operation supports a guaranteed total pixel rate of up to 600MPixel/s.
  - Both video channels supports up to 300MPixel/s.
  - Exceeding the total pixel rate of 600MPixel/s may result in a loss of quality.

### SIGNALS

- Embedded stereo audio (DisplayPort Digital, 2 channel LPCM, AC3, DTS, sampling rate up to 192 kHz)
- Transparent audio signals (stereo, analog)
- 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
- Compact design for space-saving installation within a VisionXS 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: Optional redundant power supply via an internal power unit for high reliability
- Fanless variant: fanless model

## WARRANTY

- A 3-year, free of charge product guarantee
- For an additional fee guarantee extension/guarantee renewal 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 external 12V power pack or G&D-MultiPower, providing a central and redundant power supply
- Device mounting via G&D 19" DeviceCarrier for VisionXS (1 or 3 RU)

### SYSTEM EXTENSION

- Transm. Redundancy Option (comparable to UC/CON-2): Devices are prepared for transmission redundancy without additional hardware and can be activated via software feature key.
  - 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
  - U2 variants do not support the Transm. Redundancy Option as the 2nd transmission interface is used for the transmission of USB 2.0 data
- 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                    |
|----------------------|----------------------|--------------------------------|
| USB CPU              | USB-B socket 2.0     | Connection to computer - USB   |
| Line In              | Jack socket - 3,5 mm | Connection to computer - audio |
| DP CPU 1             | DisplayPort socket   | Connection to computer - Video |
| DP CPU 2             | DisplayPort socket   | Connection to computer - Video |

## BACK



| Aperture designation | Design            | Description                                                            |
|----------------------|-------------------|------------------------------------------------------------------------|
| Transmission 1       | LC-Duplex socket  | Data transmission to console module or matrix switch (FIBER)           |
| Transmission 2       | LC-Duplex socket  | Data transmission to console module or matrix switch redundant (FIBER) |
| Service              | Micro-USB socket  | Port for service purposes                                              |
| Network              | RJ45 socket       | Port for IP network                                                    |
| Power                | Mini-DIN 4 socket | Power supply DC                                                        |

## TECHNICAL DATA

|              |                                 |                                     |
|--------------|---------------------------------|-------------------------------------|
| General      | Product group                   | KVM extenders<br>KVM matrix systems |
|              |                                 |                                     |
| Transmission | Number of transmission channels | 1                                   |
|              | Redundant transmission channels | optional redundant KVM transmission |
|              | Range                           | 10000 m (9/125µm, OS1)              |
|              | Laser class                     | Class 1                             |
|              | Type of interface               | LC-Duplex                           |
|              | Wavelength                      | 1310 nm                             |
|              | KVM matrix system component     | Computer module                     |
|              | Medium                          | Fiber SM+                           |
|              | Data rate                       | 2.5 Gbit/s                          |
|              |                                 |                                     |
| Video input  | Number of video channels        | 1                                   |
|              | Format                          | DisplayPort 1.1<br>(HBR)            |
|              | Colour depth                    | 24 bit                              |
|              | Pixel rate                      | ca. 25 MPixel/s to ca. 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)<br>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 input 2 | Number of video channels     | 1                                                                                                                                                                                                                                                                                                                                                 |
|               | Format                       | DisplayPort 1.1 (HBR)                                                                                                                                                                                                                                                                                                                             |
|               | Quantity                     | 1                                                                                                                                                                                                                                                                                                                                                 |
|               | Colour depth                 | 24 bit                                                                                                                                                                                                                                                                                                                                            |
|               | Pixel encoding               | RGB 4:4:4 (24 bpp / 8 bpc)                                                                                                                                                                                                                                                                                                                        |
|               | Pixel rate                   | ca. 25 MPixel/s to ca. 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>1920 × 1080 (60 Hz)<br>1920 × 1200 (60 Hz)<br>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   | 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                                                                                                                                                                                                                                                                                                      |
|         | Resolutions                  | 24 bit digital                                                                                                                                                                                                                                                                                                             |
|         | Sampling rate                | up to 96 kHz                                                                                                                                                                                                                                                                                                               |
|         | Bandwidth                    | 22 kHz                                                                                                                                                                                                                                                                                                                     |
|         | Audio support                | Analog                                                                                                                                                                                                                                                                                                                     |
| USB     | Specification                | USB 2.0                                                                                                                                                                                                                                                                                                                    |

|                      |                            |                                                                       |
|----------------------|----------------------------|-----------------------------------------------------------------------|
|                      | GenericUSB support         | 1 device                                                              |
|                      | Medium                     | Embedded                                                              |
|                      | Transmission rate          | 25 Mbit/s (Full Speed)                                                |
|                      | USB classes                | Mass Storage (MSC / UMS)<br>Human Interface Device (HID)<br>SmartCard |
| Network              | Medium 1                   | CAT5<br>CAT6<br>CAT7                                                  |
|                      | Data rate 1                | 10 MBit/s<br>100 MBit/s                                               |
| Maintenance          | Update via                 | ConfigPanel (Network)                                                 |
|                      | Serviceport settings       | 115200bps (8/N/1)                                                     |
| Housing              | Material                   | anodised aluminium                                                    |
|                      | Width                      | ca. 109 mm                                                            |
|                      | Height                     | ca. 31 mm                                                             |
|                      | Depth                      | ca. 184 mm                                                            |
|                      | IP protection class        | IP20                                                                  |
| Operating conditions | Operating temperature      | 5 °C to 45 °C                                                         |
|                      | Operating air humidity     | 20 % to 80 %, non-condensing                                          |
|                      | Area of application        | Interior                                                              |
|                      | Maximum operating altitude | 3048m above sea level                                                 |
|                      | Storage temperature        | -20 °C to 60 °C                                                       |

|              |                      |                                                                                                                                                                                                                                                                   |
|--------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              | Storage air humidity | 15 % to 85 %, non-condensing                                                                                                                                                                                                                                      |
|              | MTBF                 | 200000 h at 25°C                                                                                                                                                                                                                                                  |
|              | Conformities         | FCC compliant (see manual)<br>TAA compliant (see downloads)<br>EAC compliant (see downloads)<br>RoHS compliant (see downloads)<br>WEEE (reg. no. DE30763240)<br>REACH compliant (see downloads)<br>CE compliant (see downloads)<br>UKCA compliant (see downloads) |
| Power supply | Input voltage        | 12 VDC                                                                                                                                                                                                                                                            |
|              | Current consumption  | 1 A                                                                                                                                                                                                                                                               |

## MORE VARIANTS

| Description                                                                                                                                            | Article number |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>VisionXS-CPU-F(S+)-DP-HR</b><br>Computer module to extend DisplayPort signals via fiber singlemode+                                                 | A1110296       |
| <b>VisionXS-CPU-F(S+)-DP-HR-A</b><br>Computer module to extend DisplayPort signals via fiber singlemode+                                               | A1110297       |
| <b>VisionXS-CPU-F(S+)-DP-HR-A-U</b><br>Computer module to extend DisplayPort signals via fiber singlemode+                                             | A1110298       |
| <b>VisionXS-CPU-F(S+)-DP-HR-A-U2</b><br>Computer module to extend DisplayPort signals via fiber singlemode+                                            | A1110602       |
| <b>VisionXS-CPU-F(S+)-DP-HR-AR-DT</b><br>Computer module to extend DisplayPort signals via fiber singlemode+                                           | A1110300       |
| <b>VisionXS-CPU-F(S+)-DP-HR-AR-U-DT</b><br>Computer module to extend DisplayPort signals via fiber singlemode+                                         | A1110301       |
| <b>VisionXS-CPU-F(S+)-DP-HR-AR-U2-DT</b><br>Computer module to extend DisplayPort signals via fiber singlemode+                                        | A1110601       |
| <b>VisionXS-CPU-F(S+)-DP-HR-DH</b><br>Dual head computer module (fiber singlemode+) to extend 2 DisplayPort signals using 1 transmission line          | A1110536       |
| <b>VisionXS-CPU-F(S+)-DP-HR-DH-A-U</b><br>Dual head computer module (fiber singlemode+) to extend 2 DisplayPort signals using 1 transmission line      | A1110537       |
| <b>VisionXS-CPU-F(S+)-DP-HR-DH-A-U2</b><br>Dual head computer module (fiber singlemode+) to extend 2 DisplayPort signals using 1 transmission line     | A1110604       |
| <b>VisionXS-CPU-F(S+)-DP-HR-DH-AR-DT</b><br>Dual head computer module (fiber singlemode+) to extend 2 DisplayPort signals using 1 transmission line    | A1110541       |
| <b>VisionXS-CPU-F(S+)-DP-HR-DH-AR-U-DT</b><br>Dual head computer module (fiber singlemode+) to extend 2 DisplayPort signals using 1 transmission line  | A1110540       |
| <b>VisionXS-CPU-F(S+)-DP-HR-DH-AR-U2-DT</b><br>Dual head computer module (fiber singlemode+) to extend 2 DisplayPort signals using 1 transmission line | A1110603       |

| Description                                                                                                                                         | Article number |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>VisionXS-CPU-F(S+)-DP-HR-DH-DT</b><br>Dual head computer module (fiber singlemode+) to extend 2 DisplayPort signals using 1 transmission line    | A1110543       |
| <b>VisionXS-CPU-F(S+)-DP-HR-DH-U</b><br>Dual head computer module (fiber singlemode+) to extend 2 DisplayPort signals using 1 transmission line     | A1110539       |
| <b>VisionXS-CPU-F(S+)-DP-HR-DH-U-DT</b><br>Dual head computer module (fiber singlemode+) to extend 2 DisplayPort signals using 1 transmission line  | A1110542       |
| <b>VisionXS-CPU-F(S+)-DP-HR-DH-U2</b><br>Dual head computer module (fiber singlemode+) to extend 2 DisplayPort signals using 1 transmission line    | A1110605       |
| <b>VisionXS-CPU-F(S+)-DP-HR-DH-U2-DT</b><br>Dual head computer module (fiber singlemode+) to extend 2 DisplayPort signals using 1 transmission line | A1110606       |
| <b>VisionXS-CPU-F(S+)-DP-HR-DT</b><br>Computer module to extend DisplayPort signals via fiber singlemode+                                           | A1110302       |
| <b>VisionXS-CPU-F(S+)-DP-HR-U</b><br>Computer module to extend DisplayPort signals via fiber singlemode+                                            | A1110299       |
| <b>VisionXS-CPU-F(S+)-DP-HR-U-DT</b><br>Computer module to extend DisplayPort signals via fiber singlemode+                                         | A1110303       |
| <b>VisionXS-CPU-F(S+)-DP-HR-U2</b><br>Computer module to extend DisplayPort signals via fiber singlemode+                                           | A1110607       |
| <b>VisionXS-CPU-F(S+)-DP-HR-U2-DT</b><br>Computer module to extend DisplayPort signals via fiber singlemode+                                        | A1110608       |

# 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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