

VISIONXS-IP-DP-UHR 2.0

KVM-over-IP™ extenders



New



VisionXS-IP-DP-UHR 2.0

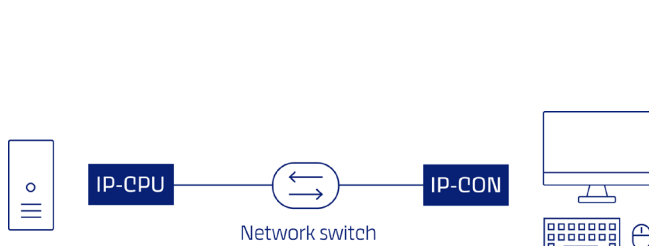
The matrix-compatible KVM-over-IP extenders of the VisionXS-IP-DP-UHR 2.0 series extend keyboard, video, and mouse signals, as well as other peripheral data (e.g., audio and USB), via a standardized IP network infrastructure with CAT or fiber connection (up to 10,000 m). An extender system consists of a computer module (CPU) and a compatible console module (CON). Computers can be controlled in near realtime – both in extender and matrix applications. The VisionXS-IP-DP-UHR 2.0 series supports DisplayPort 1.2 for ultra-high-resolution video up to 4096 × 2160 (60 Hz) or 5120 × 2160 (50 Hz). Video data is processed pixelperfectly and offers excellent hand-eye coordination, thanks to bluedec™ – G&D's advanced, multi-stage, lossless compression technology.

VisionXS-IP 2.0 – The new generation

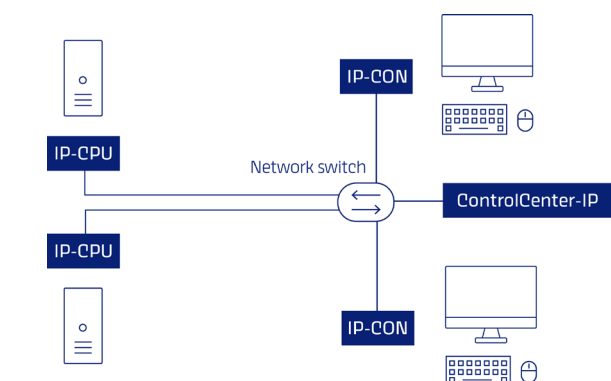
- **New, optimized housing design** – ensures higher operational reliability thanks to improved cooling and user-friendly placement of interfaces.
- **Durable surface finishing** – reliably protects the device and increases its service life, even in demanding environments.
- **Simple and cost-efficient installation** – saves time and resources without compromising stability or functionality.
- **All computer and console modules now in DT format (½ 19")** – designed for seamless installation of up to 6 devices in 3U without compromising cooling or operational reliability.
- **USB Type-C for power and service** – simplifies handling and eliminates the need for additional adapters or special solutions.
- **Individual transmission options (CAT or fiber, with or without redundancy)** – variants supplied from the factory in the desired configuration, with no additional licensing or extra effort required.
- **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.
- **Audio and RS232 support as standard** – analog audio always included (bidirectional via adapter), RS232 available by default in the DT version.

Application Area

KVM-over-IP extender operation



KVM-over-IP matrix operation



Compatibility

VisionXS-IP 2.0 is compatible with the existing product families Vision-IP, VisionXS-IP, as well as ControlCenter-IP and ControlCenter-IP-XS.

Key Benefits

- Optimal range and transmission – tailored for IP-based operation over standard Gigabit Ethernet (Layer 3)
 - The transmission distance between two active network components is up to 100 m via CAT, up to 550 m via fiber multimode, and up to 10,000 m via fiber singlemode.
 - Virtually unlimited range with IP-based transmission over standard networks.
 - DP-UHR variants use 10 Gbit/s for significantly reduced compression and improved image quality; CAT models remain compatible with 1 Gbit/s, while fiber always requires 10 Gbit/s.
- Highest video quality with minimal latency
 - Support for common video standards with brilliant image quality
Compatible with DisplayPort Ultra High Resolution (DP 1.2, up to 600 MPixel/s, e.g., 4K @ 60 Hz). RGB 4:4:4 pixel encoding with 24 bpp ensures razor-sharp, color-accurate visuals – ideal for graphically demanding applications.
 - Pixel-perfect, lossless compression with bluedec™
G&D's advanced multi-stage lossless compression technology delivers outstanding video quality with virtually zero latency, enabling precise hand-eye coordination – ideal for mission-critical environments.
 - Freeze function for maximum operational reliability
If the video signal is lost, the last received image remains visible – frozen, framed in color, and with an on-screen timer. This feature ensures situational awareness is maintained, even in critical scenarios, and is specifically designed for air traffic control and other high-security applications.
- Extended peripheral and interface support
 - Transmits not only keyboard, video, and mouse, but also analog audio, embedded audio, RS232, and USB
Each use case is served by a tailored product variant equipped with the appropriate interfaces.
 - Demand-driven video transmission: Single and DualHead
Supports single-channel video as well as DualHead (DH, 2× video over one channel) – ideal for applications with multi-screen setups, such as control centers, control rooms, or high-performance workstations.
- Optimal Usability & User Guidance
 - Permanent emulation of mouse, keyboard, and monitor
Ensures stable system states at all times—even during signal changes or restarts. Peripherals remain continuously active and ready.
 - USB-HID support for standard and specialized devices
Compatible with conventional USB input devices as well as specialized Human Interface Devices (HIDs), e.g., for industrial or safety-critical environments.
 - Standard GenericUSB support for the USB classes HID (Human Interface Device), SmartCard, and Mass Storage enables the direct use of common USB peripherals for operation, authentication, and data transfer.
 - Flexible EDID management
The extender can either adopt EDID data (monitor profiles) from the connected monitor or use a predefined optimized profile from the CPU module—adaptable to your needs.
 - Central control of monitor parameters (DDC/CI)
Supports Display Data Channel / Command Interface for remote control of monitor settings such as brightness—transparently passed through the system.
 - 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.
 - Intuitive control via On-Screen Display (OSD) and hotkeys
An integrated OSD enables direct access to settings and controls, supported by customizable hotkeys for fast interaction.
 - Modern configuration via HTML5 web interface (Config Panel 21)
Platform-independent management through a Java-free, browser-based interface—offering easy configuration, monitoring, and live firmware updates.
- High System Compatibility and Expandability
 - Integrated Matrix Support
Enables seamless integration into G&D matrix systems – ideal for centralized switching scenarios in control rooms and monitoring environments.
 - Mix & Match Capability for Heterogeneous Setups
End devices can be flexibly combined, even across different video signal types – offering maximum compatibility in diverse system configurations.

- IP-MUX Functionality for Signal Switching without Additional Hardware (VisionXS-IP only)
Allows sequential switching between up to 20 different computer modules directly at the console module – configurable via OSD.
- SecureCert Function for Certified Security (optional paid feature)
Complies with the highest standards such as FIPS 140-3, DoDIN APL, and Common Criteria EAL2+ – tailored for mission-critical applications in government and defense sectors.
- Reliability, Security, and Operational Safety
 - Physical separation between workstation and host system
No direct access to the computer – ensures enhanced system security through strict functional isolation.
 - Galvanic isolation via fiber connections
Transmitter and receiver are electrically decoupled – improving resistance to electromagnetic interference.
 - Access without local software installation
Users connect through standard interfaces – no need for additional software or agents.
 - High availability for 24/7 operation
Robust device design guarantees uninterrupted use in industrial, critical, or continuous-operation environments.
 - Trusted Computing Platform for integrity and tamper protection
Bootloader, OS, and firmware are cryptographically secured. A TPM (Trusted Platform Module) protects configuration data from unauthorized access or manipulation.
 - No security-critical data stored on the device
Console modules do not store access credentials – minimizing data leakage risk in case of loss or theft.
 - Access management with role-based permissions
Detailed user rights management with configurable access per resource and mandatory authentication (e.g., in matrix setups).
 - Integration with external directory services
Compatible with Active Directory, LDAP, and Radius – for seamless incorporation into enterprise policies and IT security frameworks.
 - Customizable password and access policies
Allows configuration of password complexity, usage rules, and lockout limits – for maximum policy compliance.
 - Built-in two-factor authentication (2FA)
A second factor can be used for login – for added protection in sensitive environments.
 - Monitoring & early warning via Syslog, SNMP, and Web Interface
Security-relevant events and suspicious activities can be centrally monitored and analyzed.
 - Auto-backup function for timely data protection
Performs automated configuration backups at defined intervals – ensuring reliable recovery without manual effort.
 - Ident-LED for easy on-site identification
Devices can be quickly located in large installations using an LED signal.
 - Encrypted data transmission at highest security level
All data is continuously encrypted: keyboard, mouse, and control data with AES256-GCM; video, audio, GenericUSB, and RS232 with AES128-CTR – to protect sensitive information.
 - UID locking to restrict hardware usage
Locks the system to predefined endpoints – preventing the addition or exchange of components.
 - Quality of Service & bandwidth management
Custom bandwidth limits and QoS features ensure stable network operation – even in complex IP infrastructures.

Product details - video

- Support of the DisplayPort™ 1.2 video standard
- bluedec™ – advanced multi-level lossless compression for pixel-perfect video quality and virtually latency-free transmission
- Pixel rate ca. 25 MPixel/s up to 600 MPixel/s
- Vertical frequency 24 Hz up to 240 Hz
- Horizontal frequency 25 kHz up to 295 kHz
- Color depth 24 bit
- Pixel encoding with RGB 4:4:4 at 24 bpp / 8 bpc
- Support for Display Data Channel Command Interface (DDC/CI)
- Support for Enhanced Extended Display Identification Data (E-EDID)
- Example resolutions:
 - 5120 × 2160 (50 Hz)
 - 5120 × 1440 (60 Hz)
 - 4096 × 2160 (60 Hz)
 - 3840 × 2160 (60 Hz)
 - Further VESA and CTA standardized resolutions are supported within the limits of pixel rate and horizontal/vertical frequency.
- LC variant: Local console at the computer module enables the display and operation of all video channels on site

Product details - further signals

- Keyboard/Mouse (USB)
- Audio (analog, stereo), bidirectional via adapter for the mono audio backchannel
- Embedded audio (DisplayPort digital, stereo, 2-channel LPCM, AC3, DTS)
- GenericUSB support for the USB classes HID (Human Interface Device), SmartCard and Mass Storage
- UG variant: CPU variant for the simultaneous use of multiple GenericUSB devices
- RS232, always available in the DT and Hex variant
- 2C / 2F variants with two transmission paths (CAT or Fiber) for redundancy via link aggregation
- PoE variant: Alternative power supply via Power over Ethernet, available only via the first transmission interface

Features and product overview

Abbreviation / Feature	Icon	Description
-	bluedec™	bluedec™ – advanced multi-stage lossless compression for best video quality and virtually latency-free transmission. This process enables pixel-perfect video transmission with efficient bandwidth utilization
-		Proprietary G&D KVM-over-IP™ transmission technology
-		Mix & Match: The devices can be flexibly combined with each other, even if they process different video signals
CPU	-	Computer module for feeding in the signals to be transmitted
CON	-	Console module for system operation
C	-	10G CAT transmission via twisted-pair cable for distances up to 100 m (compatible with 1G)
F	-	10G fiber transmission via multimode or singlemode for distances up to 10 km
2C / 2F		Two transmission paths (CAT or Fiber) for redundancy via link aggregation
DP-UHR		DisplayPort™ 1.2 video signal incl. embedded stereo audio (2-channel LPCM, AC3, DTS)
-		Resolutions up to 600 MPixel/s possible, e.g. 5120 × 2160 (50 Hz) or 4096 × 2160 (60 Hz)
-		Number of video channels
LC		Local console at the computer module enables the display and operation of all video channels on site
GenUSB		Always included: GenericUSB support for the USB classes HID (Human Interface Device), Smart-Card, and Mass Storage
UG / GenUSBm		CPU variant for the simultaneous use of multiple GenericUSB devices as well as GenericUSB support for the USB classes HID (Human Interface Device), SmartCard, and Mass Storage
-		Transparent audio signals (stereo, analog), bidirectional via optional adapter for the mono audio back channel
DT		Transparent RS232 (max. 115,200 bps), always available in the DT variant
PoE	-	Alternative power supply via Power-over-Ethernet, only through the first transmission interface
-		Product dimensions, ca. in millimeters, specified as width × height × depth

Computer modules, transmission via CAT twisted pair cable up to 100m

Item no.	Name							
A1111177	VisionXS-IP-CPU-C-DP-UHR-DT 2.0	1	○	○	GenUSB	●	●	215 x 44 x 222
A1111163	VisionXS-IP-CPU-C-DP-UHR-LC-DT 2.0	1	●	○	GenUSB	●	●	215 x 44 x 222
A1111174	VisionXS-IP-CPU-2C-DP-UHR-DT 2.0	1	○	●	GenUSB	●	●	215 x 44 x 222
A1111160	VisionXS-IP-CPU-2C-DP-UHR-LC-DT 2.0	1	●	●	GenUSB	●	●	215 x 44 x 222
A1111178	VisionXS-IP-CPU-C-DP-UHR-DT-PoE 2.0	1	○	○	GenUSB	●	●	215 x 44 x 222
A1111164	VisionXS-IP-CPU-C-DP-UHR-LC-DT-PoE 2.0	1	●	○	GenUSB	●	●	215 x 44 x 222
A1111170	VisionXS-IP-CPU-C-DP-UHR-UG-DT 2.0	1	○	○	GenUSBm	●	●	215 x 44 x 222
A1111156	VisionXS-IP-CPU-C-DP-UHR-LC-UG-DT 2.0	1	●	○	GenUSBm	●	●	215 x 44 x 222
A1111167	VisionXS-IP-CPU-2C-DP-UHR-UG-DT 2.0	1	○	●	GenUSBm	●	●	215 x 44 x 222
A1111153	VisionXS-IP-CPU-2C-DP-UHR-LC-UG-DT 2.0	1	●	●	GenUSBm	●	●	215 x 44 x 222
A1111171	VisionXS-IP-CPU-C-DP-UHR-UG-DT-PoE 2.0	1	○	○	GenUSBm	●	●	215 x 44 x 222
A1111157	VisionXS-IP-CPU-C-DP-UHR-LC-UG-DT-PoE 2.0	1	●	○	GenUSBm	●	●	215 x 44 x 222

Computer modules, transmission via fiber multimode up to 550m

Item no.	Name							
A1111179	VisionXS-IP-CPU-F(M)-DP-UHR-DT 2.0	1	○	○	GenUSB	●	●	215 x 44 x 222
A1111165	VisionXS-IP-CPU-F(M)-DP-UHR-LC-DT 2.0	1	●	○	GenUSB	●	●	215 x 44 x 222
A1111175	VisionXS-IP-CPU-2F(M)-DP-UHR-DT 2.0	1	○	●	GenUSB	●	●	215 x 44 x 222
A1111161	VisionXS-IP-CPU-2F(M)-DP-UHR-LC-DT 2.0	1	●	●	GenUSB	●	●	215 x 44 x 222
A1111172	VisionXS-IP-CPU-F(M)-DP-UHR-UG-DT 2.0	1	○	○	GenUSBm	●	●	215 x 44 x 222
A1111158	VisionXS-IP-CPU-F(M)-DP-UHR-LC-UG-DT 2.0	1	●	○	GenUSBm	●	●	215 x 44 x 222
A1111168	VisionXS-IP-CPU-2F(M)-DP-UHR-UG-DT 2.0	1	○	●	GenUSBm	●	●	215 x 44 x 222
A1111154	VisionXS-IP-CPU-2F(M)-DP-UHR-LC-UG-DT 2.0	1	●	●	GenUSBm	●	●	215 x 44 x 222

Computer modules, transmission via fiber singlemode up to 10.000m

Item no.	Name							
A1111180	VisionXS-IP-CPU-F(S)-DP-UHR-DT 2.0	1	○	○	GenUSB	●	●	215 x 44 x 222
A1111166	VisionXS-IP-CPU-F(S)-DP-UHR-LC-DT 2.0	1	●	○	GenUSB	●	●	215 x 44 x 222
A1111176	VisionXS-IP-CPU-2F(S)-DP-UHR-DT 2.0	1	○	●	GenUSB	●	●	215 x 44 x 222
A1111162	VisionXS-IP-CPU-2F(S)-DP-UHR-LC-DT 2.0	1	●	●	GenUSB	●	●	215 x 44 x 222
A1111173	VisionXS-IP-CPU-F(S)-DP-UHR-UG-DT 2.0	1	○	○	GenUSBm	●	●	215 x 44 x 222
A1111159	VisionXS-IP-CPU-F(S)-DP-UHR-LC-UG-DT 2.0	1	●	○	GenUSBm	●	●	215 x 44 x 222
A1111169	VisionXS-IP-CPU-2F(S)-DP-UHR-UG-DT 2.0	1	○	●	GenUSBm	●	●	215 x 44 x 222
A1111155	VisionXS-IP-CPU-2F(S)-DP-UHR-LC-UG-DT 2.0	1	●	●	GenUSBm	●	●	215 x 44 x 222

Console modules, transmission via CAT twisted pair cable up to 100m

Item no.	Name							
A1120817	VisionXS-IP-CON-C-DP-UHR-DT 2.0	1	○	○	GenUSB	●	●	215 x 44 x 222
A1120814	VisionXS-IP-CON-2C-DP-UHR-DT 2.0	1	○	●	GenUSB	●	●	215 x 44 x 222
A1120818	VisionXS-IP-CON-C-DP-UHR-DT-PoE 2.0	1	○	○	GenUSB	●	●	215 x 44 x 222

Console modules, transmission via fiber multimode up to 550m

Item no.	Name							
A1120819	VisionXS-IP-CON-F(M)-DP-UHR-DT 2.0	1	○	○	GenUSB	●	●	215 x 44 x 222
A1120815	VisionXS-IP-CON-2F(M)-DP-UHR-DT 2.0	1	○	●	GenUSB	●	●	215 x 44 x 222

Console modules, transmission via fiber singlemode up to 10.000m

Item no.	Name							
A1120820	VisionXS-IP-CON-F(S)-DP-UHR-DT 2.0	1	○	○	GenUSB	●	●	215 x 44 x 222
A1120816	VisionXS-IP-CON-2F(S)-DP-UHR-DT 2.0	1	○	●	GenUSB	●	●	215 x 44 x 222

Enclosure

The VisionXS-IP 2.0 features a powder-coated sheet steel enclosure (color RAL 9006 White Aluminum with fine-texture metallic finish) with protection class IP20. It is available in the following enclosure sizes (H × W × D):

Desktop enclosure (DT, ½ 19")

215 mm x 44 mm x 222 mm



Operating conditions

- Area of application: Indoor use
- Operating mode: Active cooling via fan
- Operating temperature: 5°C to 45°C (35°C for under-desk or rack mounting)
- Operating air humidity: 20% to 80%, non-condensing
- Max. operating altitude: 3048m above sea level
- Storage temperature: -20°C to 60°C
- Storage air humidity: 15% to 85%, non-condensing
- Conformities: CE, FCC, UKCA, TAA, WEEE, REACH, RoHS

Scope of delivery – computer modules

Note: The products can be operated using the internal power supply.

Redundant power supply can be realized with an additional external power pack.

Fiber variants (F / 2F) include the required SFP transceivers (M / S).

Quantity	Item no.	Name	Description
1	A3110017	Audio adapter cable, 1x 3.5mm jack plug to 2x 3.5mm jack socket	Adapter to split analog audio speaker and microphone
2	A6300083	Audio-M/M-2-ferrite cable 2m	Audio connection cable with ferrite core
1	A6300173	DP1.4-Cable-M/M-2 SK13357 2m	Single cable to connect a DisplayPort video channel (DP1.4)
1	A6200112	TypeC-Service-Cable-M/M-2, 2m, USB Type-A / Type-C	Cable for system updates and configuration
1	A6300023	RS232-M/F-2 cable RS232 2m	Cable to connect a serial device
1	According to the shipping region	PowerCable 2m	Cable to connect the power supply

Scope of delivery – console modules

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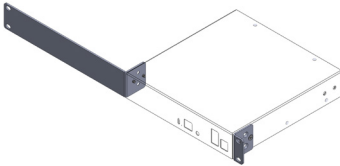
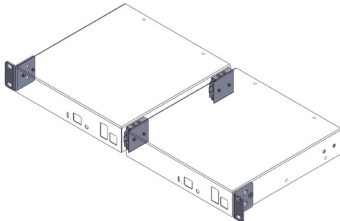
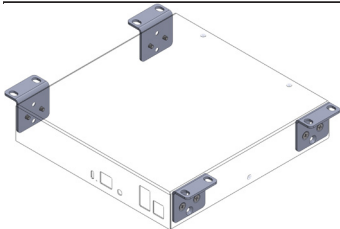
Quantity	Item no.	Name	Description
1	A3110017	Audio adapter cable, 1x 3.5mm jack plug to 2x 3.5mm jack socket	Adapter to split analog audio speaker and microphone
1	According to the shipping region	PowerCable 2m	Cable to connect the power supply

Additional available cables

Note: Further country-specific cables available on request.

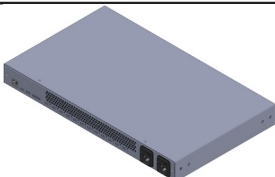
Item no.	Name	Description
A6300118	Audio-M/M-3-ferrite cable 3m	Audio connection cable with ferrite core
A6300085	Audio-M/M-5-ferrite cable 5m	Audio connection cable with ferrite core
A6300174	DP1.4-Cable-M/M-3 SK13358 3m	Single cable to connect a DisplayPort video channel (DP1.4)
A6300175	DP1.4-Cable-M/M-5 SK13359 5m	Single cable to connect a DisplayPort video channel (DP1.4)
A6300024	RS232-M/F-3 cable RS232 3m	Cable to connect a serial device
A6300025	RS232-M/F-5 cable RS232 5m	Cable to connect a serial device
A6300066	PowerCable-3 Standard cable 3m	Cable to connect the power supply type Germany
A6300065	PowerCable-5 Standard cable 5m	Cable to connect the power supply type Germany
A6100173	TS-LED-blue-R-2	LED to tag the active console of a TradeSwitch configuration of a matrix
A6100172	TS-LED-blue-R-3	LED to tag the active console of a TradeSwitch configuration of a matrix
A6100171	TS-LED-blue-R-5	LED to tag the active console of a TradeSwitch configuration of a matrix
A6300177	PowerCable-C5-3 DE 3m	Cable to connect the external power supply type Germany
A6300178	PowerCable-C5-5 DE 5m	Cable to connect the external power supply type Germany

Mounting solutions

Figure	Item no.	Name	Description
	A7000073	19" RM-Set-VXSDT2.0-1RU	19" extension for rack mounting of one VisionXS(-IP) 2.0 desktop device within 1U (44 mm height)
	A7000071	19" RM-Set-VXSDT2.0-Twin-1RU	19" extension for combined rack mounting of two VisionXS(-IP) 2.0 desktop devices within 1U (44 mm height)
	A7000076	Table-Mount-Set-VXS2.0-436_MP12TypeC	Fastening kit for under desk mounting of devices of VisionXS 2.0 and VisionXS-IP 2.0 series as well as MultiPower-12-TypeC devices

External power supply

External power supply for the VisionXS-IP 2.0 series is provided via USB Type-C PD (Power Delivery). Besides the universal external power adapter, the new MultiPower-12-TypeC allows centralized and redundant power supply. It further supports network-based control, monitoring, and updates, as well as intelligent energy management with automatic load balancing.

Figure	Item no.	Name	Description
	A4110063	PowerPack USB PD TypeC max. 65W 5V-20V	USB TypeC power supply with power delivery, max. 65W, 5V-20V, incl. power cable (Type according to the shipping region)
	A4110064	MultiPower-12-TypeC	Central power supply for up to 12 devices with USB Type-C PD interface. Max. total power 270W, max. 60W per port. Max. 22.5W per port if operating 12 identical devices.