VISIONXS-IP-DVI-I 2.0

KVM-over-IP™ extenders

New

DVI-SL 1080 bluedec™

VisionXS-IP-DVI-I 2.0

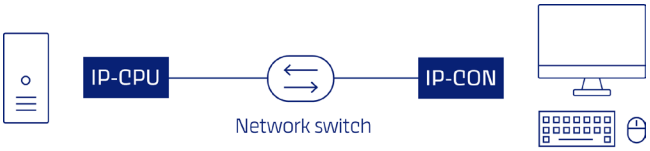
The matrix-compatible KVM-over-IP extenders of the VisionXS-IP-DVI-I 2.0 series extend keyboard, video, and mouse signals, as well as other peripheral data (e.g., audio and USB), via a standardized IP network infrastructure with CAT or fiber connection (up to 10,000 m). An extender system consists of 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-DVI-I 2.0 series supports SingleLink-DVI-I for analog and digital video resolutions up to 1920 × 1200 (60 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

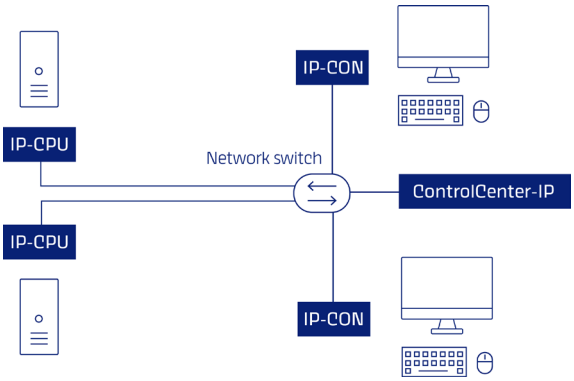
- **New, optimized housing design** – ensures higher operational reliability thanks to improved cooling and user-friendly placement of interfaces.
- **Durable surface finishing** – reliably protects the device and increases its service life, even in demanding environments.
- **Simple and cost-efficient installation** – saves time and resources without compromising stability or functionality.
- **Only computer modules with DVI-I are available** – these can be combined with compatible workstation modules featuring alternative video interfaces (e.g., DP-HR).
- **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.
- Highest video quality with minimal latency
  - Support for common video standards with brilliant image quality
    Compatible with DVI-I (DVI and VGA signals up to 165 MPixel/s, e.g. Full HD @ 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, RS232, and USB
    Each use case is served by a tailored product variant equipped with the appropriate interfaces.
- 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.
  - 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 DVI-I video standard (DVI and VGA signals)
- bluedec™ – advanced multi-level lossless compression for pixel-perfect video quality and virtually latency-free transmission
- Pixel rate ca. 25 MPixel/s up to 165 MPixel/s
- Vertical frequency 24 Hz up to 120 Hz
- Horizontal frequency 25 kHz up to 135 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:
  - 1920 × 1200 (60 Hz)
  - 1920 × 1080 (60 Hz)
  - Further VESA and CTA standardized resolutions are supported within the limits of pixel rate and horizontal/vertical frequency.

Product details - further signals

— Keyboard/Mouse (USB)
— Audio (analog, stereo), bidirectional via adapter for the mono audio backchannel
— 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	-	1G CAT transmission via twisted-pair cable for distances up to 100 m
F	-	1G 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
DVI-I	DVI-SL	DVI-I video signal (digital and analog/VGA)
-	1080	Resolutions up to 165 MPixel/s possible, e.g. 1920 × 1200 (60 Hz) or 1920 × 1080 (60 Hz)
-	MC	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	RS232	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	MC				RS232	
A1111149	VisionXS-IP-CPU-C-DVI-I 2.0	1	○	○	GenUSB	●	○	115 x 32 x 222
A1111146	VisionXS-IP-CPU-2C-DVI-I 2.0	1	○	●	GenUSB	●	○	115 x 32 x 222
A1111150	VisionXS-IP-CPU-C-DVI-I-PoE 2.0	1	○	○	GenUSB	●	○	115 x 32 x 222
A1111142	VisionXS-IP-CPU-C-DVI-I-DT 2.0	1	○	○	GenUSB	●	●	215 x 44 x 222
A1111139	VisionXS-IP-CPU-2C-DVI-I-DT 2.0	1	○	●	GenUSB	●	●	215 x 44 x 222
A1111143	VisionXS-IP-CPU-C-DVI-I-DT-PoE 2.0	1	○	○	GenUSB	●	●	215 x 44 x 222
A1111135	VisionXS-IP-CPU-C-DVI-I-UG 2.0	1	○	○	GenUSBm	●	○	115 x 32 x 222
A1111132	VisionXS-IP-CPU-2C-DVI-I-UG 2.0	1	○	●	GenUSBm	●	○	115 x 32 x 222
A1111136	VisionXS-IP-CPU-C-DVI-I-UG-PoE 2.0	1	○	○	GenUSBm	●	○	115 x 32 x 222
A1111128	VisionXS-IP-CPU-C-DVI-I-UG-DT 2.0	1	○	○	GenUSBm	●	●	215 x 44 x 222
A1111125	VisionXS-IP-CPU-2C-DVI-I-UG-DT 2.0	1	○	●	GenUSBm	●	●	215 x 44 x 222
A1111129	VisionXS-IP-CPU-C-DVI-I-UG-DT-PoE 2.0	1	○	○	GenUSBm	●	●	215 x 44 x 222

Computer modules, transmission via fiber multimode up to 550m

Item no.	Name	MC				RS232	
A1111151	VisionXS-IP-CPU-F(M)-DVI-I 2.0	1	○	○	GenUSB	●	○	115 x 32 x 222
A1111147	VisionXS-IP-CPU-2F(M)-DVI-I 2.0	1	○	●	GenUSB	●	○	115 x 32 x 222
A1111144	VisionXS-IP-CPU-F(M)-DVI-I-DT 2.0	1	○	○	GenUSB	●	●	215 x 44 x 222
A1111140	VisionXS-IP-CPU-2F(M)-DVI-I-DT 2.0	1	○	●	GenUSB	●	●	215 x 44 x 222
A1111137	VisionXS-IP-CPU-F(M)-DVI-I-UG 2.0	1	○	○	GenUSBm	●	○	115 x 32 x 222
A1111133	VisionXS-IP-CPU-2F(M)-DVI-I-UG 2.0	1	○	●	GenUSBm	●	○	115 x 32 x 222
A1111130	VisionXS-IP-CPU-F(M)-DVI-I-UG-DT 2.0	1	○	○	GenUSBm	●	●	215 x 44 x 222
A1111126	VisionXS-IP-CPU-2F(M)-DVI-I-UG-DT 2.0	1	○	●	GenUSBm	●	●	215 x 44 x 222

Computer modules, transmission via fiber singlemode up to 10.000m

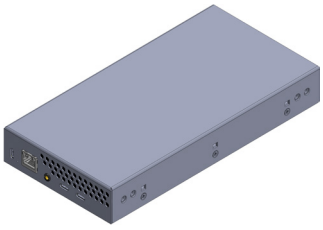
Item no.	Name	MC				RS232	
A1111152	VisionXS-IP-CPU-F(S)-DVI-I 2.0	1	○	○	GenUSB	●	○	115 x 32 x 222
A1111148	VisionXS-IP-CPU-2F(S)-DVI-I 2.0	1	○	●	GenUSB	●	○	115 x 32 x 222
A1111145	VisionXS-IP-CPU-F(S)-DVI-I-DT 2.0	1	○	○	GenUSB	●	●	215 x 44 x 222
A1111141	VisionXS-IP-CPU-2F(S)-DVI-I-DT 2.0	1	○	●	GenUSB	●	●	215 x 44 x 222
A1111138	VisionXS-IP-CPU-F(S)-DVI-I-UG 2.0	1	○	○	GenUSBm	●	○	115 x 32 x 222
A1111134	VisionXS-IP-CPU-2F(S)-DVI-I-UG 2.0	1	○	●	GenUSBm	●	○	115 x 32 x 222
A1111131	VisionXS-IP-CPU-F(S)-DVI-I-UG-DT 2.0	1	○	○	GenUSBm	●	●	215 x 44 x 222
A1111127	VisionXS-IP-CPU-2F(S)-DVI-I-UG-DT 2.0	1	○	●	GenUSBm	●	●	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):

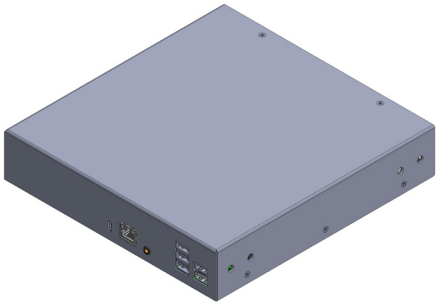
Compact enclosure

115 mm x 32 mm x 222 mm



Desktop enclosure (DT, ½ 19″)

215 mm x 44 mm x 222 mm



Operating conditions

- Area of application: Indoor use
- 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 leavel
- 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 – compact computer modules

Important: Requires an additional external power supply.
Note: 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	A6300100	DVI-D-DL-M/M-2 cable DVI-D 2m	Single cable for connecting a digital dual-link video channel
1	A6300053	VGA-M/DVI-A-M-2 cable VGA-DVI 2m	Single cable for connecting an analog video channel
1	A6200112	TypeC-Service-Cable-M/M-2, 2m, USB Type-A / Type-C	Cable for system updates and configuration

Additional scope of delivery – computer modules in desktop enclosures (DT)

Note: Desktop enclosure variants can be operated using the internal power supply.
Redundant power supply can be realized with an additional external power pack.

Quantity	Item no.	Name	Description
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

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
A6300164	DVI-D-DL-M/M-3 cable DVI-D 3m	Single cable for connecting a digital dual-link video channel
A6300104	DVI-D-DL-M/M-5 cable DVI-D 5m	Single cable for connecting a digital dual-link video channel
A6300068	DVI-I-DL-M/M-2 cable DVI-I 2m	Single cable for connecting an analog or digital dual-link video channel
A6300070	DVI-I-DL-M/M-3 cable DVI-I 3m	Single cable for connecting an analog or digital dual-link video channel

Item no.	Name	Description
A6300069	DVI-I-DL-M/M-5 cable DVI-I 5m	Single cable for connecting an analog or digital dual-link video channel
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

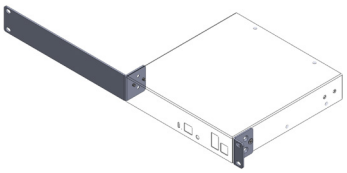
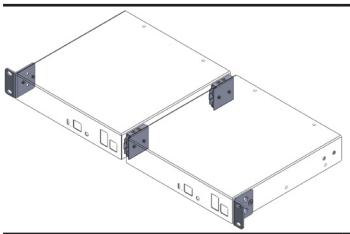
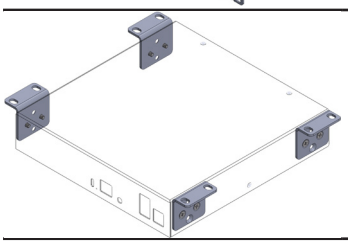
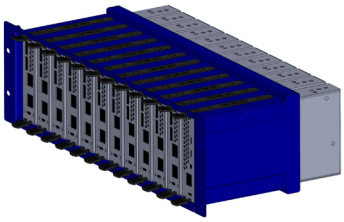
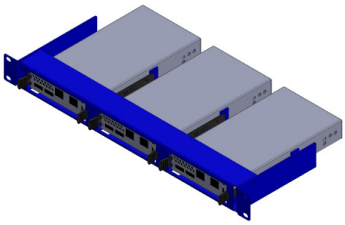
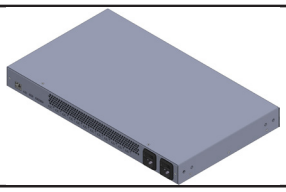
Figure	Item no.	Name	Description
	A7000073	19" RM-Set-VXSDT2.0-1RU	19" extension for rack mounting of one VisionXS(-IP) 2.0 desktop device within 1U (44 mm height)
	A7000071	19" RM-Set-VXSDT2.0-Twin-1RU	19" extension for combined rack mounting of two VisionXS(-IP) 2.0 desktop devices within 1U (44 mm 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

Figure	Item no.	Name	Description
	A7000075	19" DeviceCarrier 3RU 12x115mm for VisionXS(-IP) 2.0 variants	Device carrier for combined rack mounting of up to 12 compact VisionXS(-IP) 2.0 devices within 3U
	A7000074	19" DeviceCarrier 1RU 3x115mm for VisionXS(-IP) 2.0 variants	Device carrier for combined rack mounting of up to 3 compact VisionXS(-IP) 2.0 devices within 1U

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.