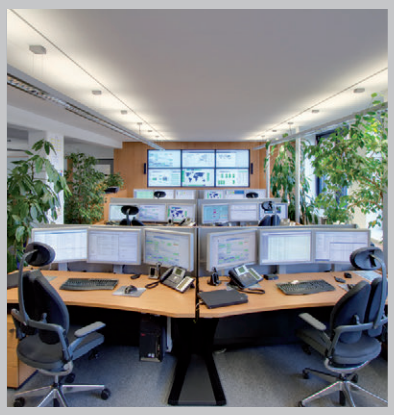
DVI KVM extender

DL-Vision 7.7

KVM extender

Extender systems to bridge IT-distances






G&D IF IT'S KVM

G&D IF IT'S KVM

Guntermann & Drunck is regarded as a leading manufacturer of digital and analogue KVM equipment used in control rooms in air traffic control, broadcast studios, on ships and to monitor industrial processes.

With a powerful portfolio consisting of KVM extenders, switches and matrix switches, G&D's users get real added value. G&D provides the broadest KVM product portfolio at the market. Even with different features, all G&D products are compatible and can be combined. Our KVM solutions optimise the application of IT equipment and improve the working conditions for humans and computers.

No matter where KVM devices are installed, there's always one main requirement - robust, reliable, user-friendly and easy to operate KVM systems that can be adapted to future requirements and grow with your demands.

By short lines of communication G&D is able to solve challenging requirements and tailor systems to our customers' needs. We keep direct contact to our customers and are personally available. We are proactive and always keep an eye on the trends in the industry. Functionalities required by our customers are quickly implemented into our products. Our success can only be measured with our customers' satisfaction.

Trust in G&D for your optimal KVM solution.

DL-Vision(M/S) - the KVM extender system for 4K-UltraHD resolution

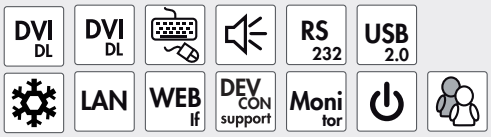
The DL-Vision (M/S) and DL-Vision(M/S)(DP) KVM extender system extends the following signals:

- Keyboard/mouse
- Dual-link DVI up to 4K resolution
- Audio
- RS232
- USB 2.0

The system consists of a computer module (transmitter) and a user module (receiver) and facilitates the remote operation of one computer. At each module, a console can be connected.

DL-Vision(M/S) uses optical fibres (two fibres) to transmit uncompressed and lossless signals up to 400 or 10,000 m. The devices are available as variants displaying one, two or four video channels.

With its network port, the web interface and monitoring functions, the DL-Vision(M/S) system offers important features for mission-critical applications.



DL-Vision(MS)-ARU2 Computer module

DL-Vision with DisplayPort: DL-Vision-DP

G&D has expanded their extender portfolio with a new variant including DisplayPort. The extender DL-Vision-DP uses optical fibers to transmit signals and is compatible with DL-Vision (M/S).

Thus, both systems can be combined. The versatile portfolio offers variants with up to four video channels and supports resolutions up to 4K.

Highlights

- The MC channels of the DL-Vision are working source synchronously. Therefore 4K content, for example, can be splitted in 2 x 2K@60 Hz or 4K@120Hz via 4 x Full-HD@120Hz
- Galvanic separation of transmitter and receiver
- Permanent keyboard/mouse emulation
- 4K-UltraHD resolution for DisplayPort and Dual-Link-DVI
- Generic implementation of DDC/CI information possible
- Link aggregation increases reliability of network ports
- Configuration over web interface
- Insensitive to interference radiation
- Screen-Freeze function
- Easier access with SNMP tool Zabbix

Details

Video

- Single- and dual-link DVI
- Resolution per channel up to 2560 x 1600 @ 60 Hz or 2048 x 2048 @ 60 Hz or 4K (4096 x 2160) @ 30 Hz
- 2k resolution (2048 x 2048 @ 60 Hz)
- The MC channels of the DL-Vision are working source synchronously. Therefore 4K content, for example, can be splitted in 2 x 2K@60 Hz or 4K@120Hz via 4 x Full-HD@120Hz
- Uncompressed, lossless transmission in 1:1 performance
- Support of Barco PVS graphics card
- Single- and multi-channel variants
- Backwards compatibility to single link DVI
- Video bandwidth up to 330 Mp/s
- 24 bit colour mode
- Transparent forwarding of E-DDC information
- Generic implementation of DDC/CI information possible

Operation

- Console with all video channels at both modules

Signals

- PS/2 and USB keyboard/mouse support
- Audio and RS232 transmission included in standard

Device

- Galvanic separation of transmitter and receiver
- Insensitive to interference radiation
- Two integrated network ports
- Configuration via web interface
- Redundant power supply
- PS/2 and USB keyboard/mouse supported - even mixed operation
- Permanent keyboard/mouse emulation
- Available as desktop and rack mount version

Details

Transmission

- 10,000 m over a pair of fibers (9/125 µm, 2,000 MHz*km, OS1)
- 400 m over a pair of multimode fibers (50/125 µm, 4.700 MHz*km, OM4)
- 300 m over a pair of multimode fibers (50/125 µm, 2,000 MHz*km, OM3)
- 82 m over a pair of multimode fibers (50/125 µm, 500 MHz*km, OM2)
- 66 m over a pair of multimode fibers (50/125µm, 400 MHz*km)
- 33 m over a pair of multimode fibers (62.5/125 µm, 200 MHz*km, OM1)
- 26 m over a pair of multimode fibers (62,5/125 µm, 160 MHz*km, FDDI-grade)
- Uncompressed, lossless transmission with 1:1 performance
- Connection over 2 × LC single plugs
- Bidirectional transmission of audio and RS232 as default
- Screen Freeze function as default
- Transparent transmission of USB 2.0

System update

- Over the config panel

Features

4K-UltraHD resolution for DisplayPort and Dual-Link-DVI

Resolutions up to 4K (at 30 Hz) are transmittable per channel.

Monitoring

With the DLV-Monitoring function, you can auto-output device status messages to Syslog servers or SNMP. The web interface lets you monitor the device manually. The Monitoring function of the DL-Vision(M/S) queries the following values:

- Proactive monitoring of device states
- Event reporting function (Syslog or SNMP traps)
- Status power supply unit (on/off)
- Status temperature threshold device (in/over limit)
- Status connection cable (ok/nok)
- Status computer (on/off)
- Status image signal graphics card computer (available/not available)
- Status of access settings (what rights are assigned to the user?)

Easier access with SNMP tool Zabbix

For customers who are not yet using extensive SNMP tools, G&D offer a simple way to use the functions included in the devices. Templates for the open source tool Zabbix are provided here. The program lets users monitor SNMP-capable devices in a network and, among other things, issues warning notifications about critical device states, which have been received via SNMP trap.

Network / Communication / Safety

- Two network interfaces
- Link aggregation increases reliability of network ports
- Configuration over web interface
- Monitoring and reporting of operating status over web interface
- Report and request of system status via SNMP trap and agent
- Logbook: electronic notes about the device; can be exported as .csv file
- Ident-LED facilitate locating of devices in complex installations
- Redundant power supply

Screen-Freeze function

If the display loses the video signal due to a broken connection or a problem with the computer's graphics card, the Screen-Freeze function „freezes" the image last displayed on the monitor. This state is highlighted by a red semi-transparent frame. Meanwhile, the current time and the downtime of the video signal is displayed. The function is automatically cancelled when the display receives an active video signal.

Supports DDC/CI protocol

The DL-Vision extender systems now offer support for the DDC/CI protocol. Thus, the screens in the control room can be automatically configured and the brightness of the screens, for example, is simply adjusted to the external light conditions.

Variants

DisplayPort variant
Also available as DisplayPort variant - DL-Vision-DP.

Design
- Units are supplied as desktop variants
- 19“ rackmount kit included

Video channels
- Single-channel, multi-channel 2 or 4 variant

Expansion

KVM-NetworkCenter support
DL-Vision(M/S) uses the network to communicate with the appliance KVM-NetworkCenter. When employing more than one DL-Vision(M/S), you can query and configure the devices by using the KVM-NetworkCenter.

Move function
Using a KVM-NetworkCenter all configurations of the installed DL-Vision can be centrally viewed or edited. If a computer or user module of DL-Vision fails, its settings are still active and visible in the database. After the installation of a new device, the administrator can transfer the „old“ settings by move-command to the new device. In this case the complexity of the new setup can be reduced.

DLV-Power
DLV-Power enables you to power on or power off a computer remotely (reset and ATX power switching) over an implemented slot card, which is connected to the computer module. The customer provides the required operating hardware at the remote side (e.g. a button), which is connected to the user module.

The function is available for all DL-Vision(M/S) variants. For further details, please contact our sales team.

Installation

Link the computer to the back of the DL-Vision(M/S) transmitter. Distinctive cables connect the computer‘s keyboard, video, mouse, audio, RS232, and USB interfaces to the DL-Vision(M/S) computer module.

Installing the user console is just as easy: simply connect the operating hardware with the corresponding interfaces of the DL-Vision(M/S) receiver.

Use the existing cabling structure to link transmitter and receiver.

DL-Vision(M/S)

DL-Vision(MS)-MC4-ARU2 Computer module

DL-Vision(MS)-ARU2 User module

GENERAL FEATURES

DL-Vision(M/S)

DL-VISION(M/S)-SERIES	
Graphics	
Format	DVI-D
Colour depth	24 Bit
Videobandwidth	max. 300 MP / s
Max. resolution	2560 × 1600 @ 60Hz, 4096 × 2160 @ 30Hz (UHD-4K)
Examplary resolutions	per video channel: 2048 × 2048 @ 60Hz, 2048 × 2160 @ 60Hz 2560 × 1600 @ 60Hz, 3840 × 2160 @ 30Hz (Ultra HD)
	when using two video channels (MC variants only): 3840 × 2160 @ 60 Hz (Ultra HD), 4096 × 2160 @ 60 Hz
	nVidia 3D-Vision 120Hz: 1680 × 1050 @ 120Hz
	further standardised resolutions possible
Vertical frequency	20 Hz to 120 Hz
Horizontal frequency	25 kHz to 185 kHz
Audio	
Transmission type	digital, stereo
Resolution	24 bit
Sampling rate	96 kHz
Bandwidth	22 kHz
USB ARU2 variant	
Specification	USB 2.0
Transmission type	transparent
Transmission rate	max. 480 Mbit/s, 1,5Mbit/s, 12Mbit/s
RS232	
Transmission type	transparent
Transmission rate	max. 230.400 bps
Transmitted signals	TxD, RxD, DTR, DSR, RTS, CTS, DCD
Main power supply + Redundant power supply	
Type	internal power pack
Connection	IEC plug (IEC-320 C14)
Voltage	AC100-240V/60-50Hz

DL-Vision(M/S)

DL-Vision(MS)-ARU2 Computer module

DL-Vision(MS)-ARU2 User module

GENERAL FEATURES

DL-Vision Modules

DL-Vision(M/S)	Computer module	User module
Interfaces for console		
Monitor: per video channel	1 × DVI-D socket	
Keyboard	1 × PS/2 socket, 1 × USB-A socket	
Mouse	1 × PS/2 socket, 1 × USB-A socket	
Audio	-	1 × 3,5-mm jack plug (Mirco In) 1 × 3,5-mm jack plug (Speaker)
USB (transparent): ARU2 variant	-	4 × USB-A socket
RS232: per video channel	-	1 × D-Sub9 socket
Interfaces to computer		
Video	1 × DVI-D socket	-
PS/2 keyboard/mouse	2 × PS/2 socket	-
USB keyboard/mouse	1 × USB-B socket	-
Audio	1 × 3,5-mm jack plug (Line In) 1 × 3,5-mm jack plug (Line Out)	-
USB (transparent) ARU2 variant	1 × USB-B socket	-
RS232: per video channel	1 × D-Sub9 socket	-
Interfaces for transmission		
Video and input devices: per video channel	1 × LWL LC duplex socket	
USB (transparent): ARU 2 variant	1 × LWL LC duplex socket	
Other interfaces		
Network connection	2 × RJ45 socket	

DL-Vision(M/S)

DL-Vision(MS)-MC2-ARU2 Computer module

DL-Vision(MS)-MC2-ARU2 User module

SPECIFIC FEATURES

DL-Vision(M/S)

DL-VISION(M/S)-AR	Computer module	User module
Current consumption		
maximum	100-240VAC/60-50Hz, 0.5-0.2A	
Casing		
Material	anodised aluminium; nickel-plated steel (bottom)	
Dimensions (W × H × D)	435 mm × 1 U × 284,5 mm	
Weight:	approx. 2,9 kg	approx. 3,0 kg
Operating environment		
Temperature	+5 to +45 °C	
Air humidity	< 80%, non-condensing	

DL-VISION(M/S)-ARU2	Computer module	User module
Current consumption		
maximum	100-240VAC/60-50Hz, 0.5-0.2A	
Casing		
Material	anodised aluminium; nickel-plated steel (bottom)	
Dimensions (W × H × D)	435 mm × 1 U × 284,5 mm	
Weight:	approx. 3,0 kg	approx. 3,1 kg
Operating environment		
Temperature	+5 to +45 °C	
Air humidity	< 80%, non-condensing	

DL-Vision(M/S)

DL-Vision(MS)-MC2-ARU2 Computer module

DL-Vision(MS)-MC2-ARU2 User module

SPECIFIC FEATURES

DL-Vision(M/S)

DL-VISION(M/S)-MC2-AR	Computer module	User module
Current consumption		
maximum	100-240VAC/60-50Hz, 0.7-0.3A	
Casing		
Material	anodised aluminium; nickel-plated steel (bottom)	
Dimensions (W × H × D)	435 mm × 1 U × 284,5 mm	
Weight:	approx. 3,1 kg	approx. 3,2 kg
Operating environment		
Temperature	+5 to +45 °C	
Air humidity	< 80%, non-condensing	

DL-VISION(M/S)-MC2-ARU2	Computer module	User module
Current consumption		
maximal	100-240VAC/60-50Hz, 0.7-0.3A	100-240VAC/60-50Hz, 0.9-0.4A
Casing		
Material	anodised aluminium; nickel-plated steel (bottom)	
Dimensions (W × H × D)	435 mm × 1 U × 284,5 mm	
Weight:	approx. 3,2 kg	approx. 3,3 kg
Operating environment		
Temperature	+5 to +45 °C	
Air humidity	< 80%, non-condensing	

DL-Vision(M/S)

DL-Vision(MS)-MC4-ARU2 Computer module

DL-Vision(MS)-MC4-ARU2 User module

SPECIFIC FEATURES

DL-Vision(M/S)

DL-VISION(M/S)-MC4-ARU2	Computer module	User module
Current consumption		
maximal	100-240VAC/60-50Hz, 0.6-0.3A	100-240VAC/60-50Hz, 0.7-0.4A
Casing		
Material	anodised aluminium; nickel-plated steel (bottom)	
Dimensions (W × H × D)	435 mm × 2 U × 284,5 mm	
Weight:	ca. 4,5 kg	
Einsatzumgebung		
Temperature	+5 to +45 °C	
Air humidity	< 80%, non-condensing	

FEATURES OF THE TRANSMISSION MODULES

KVM transmission

MULTIMODE TRANSMISSION MODULE	
Data transmission	
Type	fibre optics (2 glass fibres)
Interface type	LC duplex
Cable length (max.)	
Multimode 50/125µm, 4700MHz*km, OM4	400 metres
Multimode 50/125 µm, 2000 MHz*km, OM3	300 metres
Multimode 50/125 µm, 500 MHz*km, OM2	82 metres
Multimode 50/125 µm, 400MHz*km	66 metres
Multimode 62,5/125 µm, 200 MHz*km, OM1	33 metres
Multimode 62,5/125 µm, 160 MHz*km, FDDI-grade	26 metres
Performance data	
Wave length (λ)	850 nm (840 nm to 860 nm)
Optical power output (P_{AVG}) in 50 or 62,5 µm MMF	-7,3 dBm to -1 dBm
Receiving sensitivity (P_{MIN})	-11,1 dBm (OMA)
Sensitivity – Stressed (P_S)	-7,5 dBm (OMA, 50 µm MMF)

SINGLEMODE TRANSMISSION MODULE	
Data transmission	
Type	fibre optics (2 glass fibres)
Interface type	LC duplex
Cable length (max.) AR variant	
Singlemode 9/125µm, class OS1	10 kilometres
Wave length (λ)	1310 nm (1260 nm to 1355 nm)
Cable length (max.) ARU2 variant	
Singlemode 9/125µm, class OS1	2 kilometres
Wave length (λ)	1310 nm (1260 nm to 1360 nm)
Performance data	
Optical power output (P_{AVG}) in 50 or 62,5 µm MMF	-8,2 dBm to +0,5 dBm
Receiving sensitivity (P_{MIN})	-12,6 dBm (OMA)
Sensitivity – Stressed (P_S)	-10,3 dBm (OMA)

FEATURES OF THE TRANSMISSION MODULES

USB 2.0 transmission

MULTIMODE TRANSMISSION MODULE	
Data transmission	
Type	fibre optics (2 glass fibres)
Interface type	LC duplex
Cable length (max.)	
Multimode 50/125µm, 4700MHz*km, OM4	400 metres
Multimode 50/125 µm, 2000 MHz*km, OM3	300 metres
Multimode 50/125 µm, 500 MHz*km, OM2	82 metres
Multimode 50/125 µm, 400MHz*km	66 metres
Multimode 62,5/125 µm, 200 MHz*km, OM1	33 metres
Multimode 62,5/125 µm, 160 MHz*km, FDDI-grade	26 metres
Performance data	
Wave length (λ)	850 nm (770 nm to 860 nm)
Optical power output (P_{AVG}) in 50 or 62,5 µm MMF	-9,5 dBm to -3 dBm
Receiving sensitivity (P_{MIN})	-17 dBm
Sensitivity – Stressed (P_S)	-13,5 dBm (50 µm MMF)

SINGLEMODE TRANSMISSION MODULE	
Data transmission	
Type	fibre optics (2 glass fibres)
Interface type	LC duplex
Cable length (max.) ARU2 variant	
Singlemode 9/125µm, class OS1	2 kilometres
Wave length (λ)	1310 nm (1270 nm to 1360 nm)
Performance data	
Optical power output (P_{AVG}) in 9 µm SMF:	-9,5 dBm to -3 dBm
Receiving sensitivity (P_{MIN})	-19 dBm
Sensitivity – Stressed (P_S)	-14,4 dBm

DL-VISION-DP

DL-Vision-DP(MS)-MC2-ARU2 Computer module

DL-Vision-DP(MS)-MC2-ARU2 User module

GENERAL FEATURES DL-VISION-DP

DL-VISION-DP SERIES	
Graphics	
Format	DisplayPort (DP 1.1a)
Colour depth	24 Bit
Videobandwidth	max. 300 MP / s, DisplayPort 4 Lanes, HBR 2,7 Gbps
Max. resolution	2560 × 1600 @ 60Hz, 4096 × 2160 @ 30Hz (UHD-4K)
Examplary resolutions:	per video channel: 2048 × 2048 @ 60Hz, 2048 × 2160 @ 60Hz 2560 × 1600 @ 60Hz, 3840 × 2160 @ 30Hz (Ultra HD)
	when using two video channels (MC variants only): 3840 × 2160 @ 60 Hz (Ultra HD), 4096 × 2160 @ 60 Hz
	nVidia 3D-Vision 120Hz: 1680 × 1050 @ 120Hz
	further standardised resolutions possible
Vertical frequency	20 Hz to 120 Hz
Horizontal frequency	25 kHz to 185 kHz
Audio DisplayPort Digital	
Transmission type	2 channel LPCM, stereo
Resolutions	16/20/24 bit
Sampling rates	32/44,1/48/88,2/96/176,4/192 kHz
Audio	
Transmission type	analog, stereo
Resolutions	24 bit
Sampling rates	96 kHz
Bandwidth	22 kHz
USB ARU2 variant	
Specification	USB 2.0
Transmission type	transparent
Transmission rate	max. 480 Mbit/s, 1,5Mbit/s, 12Mbit/s
RS232	
Transmission type	transparent
Transmission rate	max. 230.400 bps
Transmitted signals	TxD, RxD, DTR, DSR, RTS, CTS, DCD
Main power supply + Redundant power supply	
Type	internal power pack
Connection	IEC plug(IEC-320 C14)
Voltage	AC100-240V/60-50Hz

DL-VISION-DP

DL-Vision-DP(MS)-MC2-ARU2 Computer module

DL-Vision-DP(MS)-MC2-ARU2 User module

GENERAL MODULE FEATURES

DL-Vision-DP Modules

DL-VISION-DP	Computer module	User module
Interfaces for console		
Monitor: per video channel	1 × DVI-D socket	1 × DisplayPort socket
Keyboard	1 × PS/2 socket, 1 × USB-A socket	
Mouse	1 × PS/2 socket, 1 × USB-A socket	
Audio	-	1 × 3.5 mm jack plug (Mirco In) 1 × 3.5 mm jack plug (Speaker)
USB (transparent): ARU2 variant	-	4 × USB-A socket
RS232: per video channel	-	1 × D-Sub9 socket
Interfaces to computer		
Video	1 × DisplayPort socket	-
PS/2 keyboard/mouse:	2 × PS/2 socket	-
USB keyboard/mouse:	1 × USB-B socket	-
Audio	1 × 3.5 mm jack plug (Line In) 1 × 3.5 mm jack plug (Line Out)	-
USB (transparent): ARU2 variant	1 × USB-B socket	-
RS232: per video channel	1 × D-Sub9 socket	-
Interfaces for transmission		
Video and input devices: per video channel	1 × LWL LC duplex socket	
USB (transparent): ARU 2 variant	1 × LWL LC duplex socket	
Other interfaces		
Network connection	2 × RJ45 socket	

DL-Vision-DP

DL-Vision-DP(MS)-MC4-ARU2 Computer module

DL-Vision-DP(MS)-MC4-ARU2 User module

SPECIFIC VARIANT FEATURES

DL-Vision-DP

DL-VISION-DP(M/S)-MC2-ARU2	Computer module	User module
Current consumption		
maximal	100-240VAC/60-50Hz, 0.6-0.3A	100-240VAC/60-50Hz, 0.9-0.4A
Casing		
Material	anodised aluminium; nickel-plated steel (bottom)	
Dimensions (W × H × D)	435 mm × 1 U × 284.5 mm	
Weight	approx. 3.3 kg	approx. 3.1 kg
Operating environment		
Temperature	+5 to +45 °C	
Air humidity	< 80%, non-condensing	

DL-VISION-DP(M/S)-MC4-ARU2	Computer module	User module
Current consumption		
maximal	100-240VAC/60-50Hz, 0.7-0.4A	100-240VAC/60-50Hz, 0.8-0.4A
Casing		
Material	anodised aluminium; nickel-plated steel (bottom)	
Dimensions (W × H × D)	435 mm × 2 U × 284.5 mm	
Weight	approx. 4.6 kg	approx. 4.5 kg
Operating environment		
Temperature	+5 to +45 °C	
Air humidity	< 80%, non-condensing	

FEATURES OF THE TRANSMISSION MODULES

Multimode transmission modules

GENERAL FEATURES		
Data transmission		
Type	Optical fibres (2 fibres)	
Type of interface	LC-Duplex	
Cable length (max.)		
Multimode 50/125µm, 4700MHz*km, OM4	400 meters	
Multimode 50/125 µm, 2000 MHz*km, OM3	300 meters	
Multimode 50/125 µm, 500 MHz*km, OM2	82 meters	
Multimode 50/125 µm, 400MHz*km	66 meters	
Multimode 62,5/125 µm, 200 MHz*km, OM1	33 meters	
Multimode 62,5/125 µm, 160 MHz*km, FDDI-grade	26 meters	
Performance data	**Transmission**	**USB 2.0 Transparent**
Wavelength(λ)	850 nm (840 nm to 860 nm)	850 nm (770 nm to 860 nm)
Optical power output (P_{AVG}) in 50 oder 62.5 µm MMF:	-7.3 dBm to-1 dBm	-9.5 dBm to -3 dBm
Receiving sensitivity (P_{MIN})	-11.1 dBm (OMA)	-17 dBm
Sensitivity – Stressed (P_S)	-7,5 dBm (OMA, 50 µm MMF)	-13,5 dBm (50 µm MMF)

Singlemode transmission modules

GENERAL FEATURES		
Data transmission		
Type	Optical fibres (2 fibres)	
Type of interface	LC-Duplex	
Cable length (max.)		
Singlemode 9/125µm, class OS1	2 kilometers	
Wavelength (λ):	1310 nm (1260 nm to 1360 nm)	
Performance data	**Transmission**	**USB 2.0 Transparent**
Optical power output (P_{AVG}) in 50 oder 62.5 µm MMF:	-8,2 dBm bis +0,5 dBm	-9,5 dBm bis -3 dBm
Receiving sensitivity (P_{MIN})	-12,6 dBm (OMA)	-19 dBm
Sensitivity – Stressed (P_S)	-10,3 dBm (OMA, 50 µm MMF)	-14,4 dBm (50 µm MMF)

List of Item Numbers Single-Channel

Item no.	Computer- / User module	Audio-RS232	USB 2.0	Desktop	Rackmount
A1220050	DL-Vision(M)-AR-CON	AR		DT	RM
A1210068	DL-Vision(M)-AR-CPU	AR		DT	RM
A1220225	DL-Vision(M)-ARU2+CON	AR	U2	DT	RM
A1210190	DL-Vision(M)-ARU2+CPU	AR	U2	DT	RM
A1220048	DL-Vision(S)-AR-CON	AR		DT	RM
A1210066	DL-Vision(S)-AR-CPU	AR		DT	RM
A1220215	DL-Vision(S)-ARU2+CON	AR	U2	DT	RM
A1210187	DL-Vision(S)-ARU2+CPU	AR	U2	DT	RM
A1800009	DLV-Power				

List of Item Numbers Multi-Channel 2

Item no.	Computer- / User module	Audio-RS232	USB 2.0	Desktop	Rackmount
A1220054	DL-Vision(M)-MC2-AR-CON	AR		DT	RM
A1210072	DL-Vision(M)-MC2-AR-CPU	AR		DT	RM
A1220226	DL-Vision(M)-MC2-ARU2+CON	AR	U2	DT	RM
A1110188	DL-Vision(M)-MC2-ARU2+CPU	AR	U2	DT	RM
A1220052	DL-Vision(S)-MC2-AR-CON	AR		DT	RM
A1210070	DL-Vision(S)-MC2-AR-CPU	AR		DT	RM
A1220216	DL-Vision(S)-MC2-ARU2+CON	AR	U2	DT	RM
A1210188	DL-Vision(S)-MC2-ARU2+CPU	AR	U2	DT	RM
A1210071	DL-Vision(S)-MC2-ARU2-CPU	AR	U2	DT	RM
A1800009	DLV-Power				

List of Item Numbers Multi-Channel 4

Item no.	Computer- / User module	Audio-RS232	USB 2.0	Desktop	Rackmount
A1420230	DL-Vision(M)-MC4-ARU2+CON	AR	U2	DT	RM
A1410186	DL-Vision(M)-MC4-ARU2+CPU-F	AR	U2	DT	RM
A1420231	DL-Vision(S)-MC4-ARU2+CON	AR	U2	DT	RM
A1410187	DL-Vision(S)-MC4-ARU2+CPU-F	AR	U2	DT	RM
A1800009	DLV-Power				

List of Item Numbers DP Single-Channel

Item no.	Computer- / User module	Audio-RS232	USB 2.0	Desktop	Rackmount
A1120210	DL-Vision-DP(M)-AR-CON	AR		DT	RM
A1110179	DL-Vision-DP(M)-AR-CPU	AR		DT	RM
A1120280	DL-Vision-DP(M)-ARU2+CON	AR	U2	DT	RM
A1110187	DL-Vision-DP(M)-ARU2+CPU	AR	U2	DT	RM
A1120212	DL-Vision-DP(S)-AR-CON	AR		DT	RM
A1110181	DL-Vision-DP(S)-AR-CPU	AR	U2	DT	RM
A1120281	DL-Vision-DP(S)-ARU2+CON	AR	U2	DT	RM
A1110189	DL-Vision-DP(S)-ARU2+CPU	AR	U2	DT	RM
A1800009	DLV-Power				

List of Item Numbers DP Multi-Channel 2

Item no.	Computer- / User module	Audio-RS232	USB 2.0	Desktop	Rackmount
A1220076	DL-Vision-DP(M)-MC2-AR-CON	AR		DT	RM
A1210095	DL-Vision-DP(M)-MC2-AR-CPU	AR		DT	RM
A1220078	DL-Vision-DP(M)-MC2-ARU2+CON	AR	U2	DT	RM
A1210185	DL-Vision-DP(M)-MC2-ARU2+CPU	AR	U2	DT	RM
A1220074	DL-Vision-DP(S)-MC2-AR-CON	AR		DT	RM
A1210093	DL-Vision-DP(S)-MC2-AR-CPU	AR		DT	RM
A1220077	DL-Vision-DP(S)-MC2-ARU2+CON	AR	U2	DT	RM
A1210186	DL-Vision-DP(S)-MC2-ARU2+CPU	AR	U2	DT	RM
A1800009	DLV-Power				

List of Item Numbers DP Multi-Channel 4

Item no.	Computer- / User module	Audio-RS232	USB 2.0	Desktop	Rackmount
A1420221	DL-Vision-DP(M)-MC4-ARU2+CON	AR	U2	DT	RM
A1410093	DL-Vision-DP(M)-MC4-ARU2+CPU	AR	U2	DT	RM
A1420220	DL-Vision-DP(S)-MC4-ARU2+CON	AR	U2	DT	RM
A1410092	DL-Vision-DP(S)-MC4-ARU2+CPU	AR	U2	DT	RM
A1800009	DLV-Power				

ABBREVIATIONS

CPU	=	Computer module
PC	=	Computer module
CON	=	User module
REM	=	User module
MC2	=	Multi channel 2
MC3	=	Multi channel 3
MC4	=	Multi channel 4
M	=	Multi mode
S	=	Single mode
S+	=	Single mode+
RM	=	For assembly in a 19“ rack
DT	=	Desktop device
DP	=	DisplayPort™
A	=	Audio
R	=	RS232
U	=	integr. USB 2.0 up to 16 MBit/s
U2	=	transp. USB 2.0 Hi-Speed 480 Mbit/s
D	=	Delay

EQUIPMENT FEATURES

- Audio
- CAT cable
- CrossDisplay-Switching
- Delay
- DisplayPort™ 1.1
- DVI Dual link video
- DVI Single link video
- Expansion
- Fiber optics
- Keyboard/Mouse
- KVM over IP
- KVM-NetworkCenter-Support
- Media control
- Mix & Match
- Modular setup
- Monitoring
- Multi user
- Multi channel Video
- Network connection
- Power switching
- Remote IP
- RS 232
- Screen Freeze
- Separate local/remote user
- Single user
- USB 2.0
- VGA Video
- Web interface