

DVI / VGA KVM Extender

LwLVision 7.2

KVM Extender

Extender systems to bridge IT-distances



Leading the way in digital KVM



Leading the Way in digital KVM

Guntermann & Drunck GmbH has been established in 1985 and is named after its founders. Over 25 years have since past, and we are now a leading manufacturer of digital and analog KVM switching systems.

As an owner-managed company we work with a broad range in both digital and analog KVM closely with the marketplace and make our decisions with and in the interests of our customers. It is our philosophy to meet our customers while making decisions, to accompany them in the process and ensure that they achieve their goals.

We can do this because as a medium sized company we have short communication paths and all core competencies are in house – from development through to production. This way we can even make the impossible possible at times. If it is thanks to the modularity of the products or by implementing a customised solution. We orient ourselves towards the needs of the customer – and not the other way round.

Organisations, service providers and companies of all sizes managing numerous computers, servers and other network devices trust the comprehensive advice and service provided by Guntermann & Drunck GmbH.

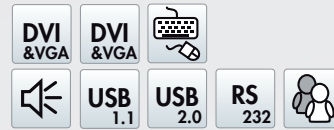
Thanks to these different fields of specialisation, the demands placed on the products are many and are manifold. Our products have to provide a long-life service, be secure, uncomplicated, user-friendly, understandable and adaptable.

The KVM extender system LwLVision extends the following signals:

- keyboard/mouse
- single-link DVI and VGA
- audio
- RS232
- USB 1.1
- USB 2.0 (currently only available for single-channel variants).

The system consists of a computer module (transmitter) and a user module (receiver) and enables you to operate a computer remotely. You can connect a console to each module.

LwLVision transmits uncompressed signals over fiber optics (2 fibres) up to 10,000 m. The devices are available as variants displaying one or two video channels.



above: LwLVision(S)-MC2-ARU2-PC computer module
below: LwLVision(S)-MC2-ARU2-CON user module

Highlights

Video

- single-link DVI and VGA at input and output side
- single- and multi-channel variants

Operation

- at both modules console with all video channels
- access protection and user management can be switched off

Signals

- transmission up to 10,000 m over fibre optics at maximum resolution
- PS/2 and USB keyboard/mouse support
- audio and RS232 transmission included in standard

Communication / Safety

- redundant power supply

Features

Video

- single-link DVI + VGA
- resolutions per channel up to 1920 × 1200 @ 60 Hz
- video bandwidth up to 165 MPixel/s
- 24 bit colour mode
- both digital and analog monitors can be connected

Transmission

- distances up to 10,000 m (2 × Singlemode 9/125 μ fiber optics) at maximum resolution
- distances up to 550 m (2 × Multimode 50/125 μ fiber optics) at maximum resolution
- distances up to 275 m (2 × Multimode 62.5/125 μ fiber optics) at maximum resolution
- modules with other wavelengths on request available
- bidirectional transmission of audio and RS232 integrated in standard
- transparent USB up to 2,000 m (optional)

Device

- galvanic separation of transmitter and receiver
- insensitive to interference radiation
- PS/2 and USB keyboard/mouse supported; also mixed operation
- 100 % permanent keyboard/mouse emulation
- redundant power supply (optional)
- available as desktop, rackmount, and twin version

System upgrade

- at service socket

Variants

Design

- available as desktop (DT) or rack mount (RM) variant
- twin variant combines two identical LwLVision modules behind one panel

Video channels

- single-channel and multi-channel 2 variant

Expansion

No product expansions available.

Installation

The computer is linked to the back of the LwLVision transmitter. Distinctive cables connect the computer's keyboard, video, mouse, audio, and USB interfaces to the LwLVision computer module.

Installing the user console is just as easy: simply connect the operating hardware with the corresponding interfaces of the LwLVision receiver.

Use the existing cabling structure to link transmitter and receiver (multimode or singlemode fibre optics). Feel free to download the LwLVision manual to find out more details about the start-up.

LwLVision Single-Channel



left: LwLVision(S)-ARU2-PC computer module
right: LwLVision(S)-ARU2-REM user module

	Computer module	User module
Video		
Number of monitors	1	
Signal type/video	analog/digital single link video	
Resolution	btw. 640 x 480 @ 100 Hz and 1920 x 1200 @ 60 Hz	
Standards	DDC support	
Interfaces for user console	1 x DVI-I socket	1 x DVI-D socket, 1 x D-sub HD 15 socket
Interfaces to computer	1 x DVI-I socket	
Keyboard/Mouse		
Interfaces for user console	2 x Mini-DIN 6 socket	
		2 x USB-A socket
Interfaces to computer	1 x D-sub HD 15 plug	
	1 x USB-B socket	
Audio		
Design	internal	
Sampling rate	48 kHz	
Resolution	18 bit digital	
Bandwidth	22 kHz	
Microphone preamplification	20 dB	
Interfaces for user console		2 x 3.5 mm jack plug (speaker, micro in)
Interfaces to computer	2 x 3.5 mm jack plug (line in, line out)	
RS232		
Design	internal	
Transmission rate	max. 57,600 bit/s	
Transmittable signals	RxD, TxD, RTS, CTS, DTR, DSR, DCD	
Interfaces for user console		1 x D-Sub 9 plug
Interfaces to computer	1 x D-Sub 9 plug	

Transparent USB 1.1 or 2.0		
Design	internal	
Transmission length	multimode fibres up to 550 m singlemode fibres up to 2,000 m	
USB power supply	high power devices up to 500 mA	
USB 1.1 transmission rate	up to 12 Mbit/s	
USB 2.0 transmission rate	up to 480 Mbit/s	
Interfaces for user console	4 x USB-A socket	
Interfaces to computer	1 x USB-B socket	
Transmission		
Type of cable connection	dedicated fibre optic link	
Transmission cable type	singlemode/multimode fibres	
Transmission length (max.)	275 m over 2 multimode fibres (62.5/125µm) at max. resolution 550 m over 2 multimode fibres (50/125µm) at max. resolution 10,000 m over 2 singlemode fibres (9/125µm) at max. resolution, with USB max. 2,000 m	
Connection	1 x SC duplex socket	
No. of fibre optics	2	
Audio - RS232 transmission	no additional fibre optics	
USB 1.1 transmission	no additional fibre optics	
USB 2.0 transmission	2 additional fibre optics	
Main power supply		
Type	internal power pack	
Connection	1 x IEC plug	
Voltage	AC100-240V/60-50Hz	
	0.3-0.2A	0.4-0.2A
USB variant	0.3-0.2A	0.5-0.3A
Redundant power supply		
Typ	external power pack	
Connection	Mini-DIN 4 socket	
Voltage	+12VDC/0.9A	+12VDC/1.0A
USB 1.1 variant	+12VDC/1.0A	+12VDC/2.0A
USB 2.0 variant	+12VDC/0.9A	+12VDC/2.1A
Casing		
Material	anodised aluminium	
Desktop (W x H x D)	210 x 44 x 210 mm	
when equipped with USB 2.0	270 x 44 x 210 mm	
Rackmount (W x H x D)	19" x 1 U x 210 mm	
Weight	approx. 1.4 kg	approx. 1.3 kg
when equipped with USB 2.0	approx. 1.7 kg	approx. 1.7 kg
Update		
Process	at service socket of computer module or user module	
Connection	1 x 2.5 mm jack plug	
Operating environment		
Temperature	+5 to +40 °C	
Air humidity	20 - 80% non-condensing	
Conformity	CE, RoHS	

LwLVision Multi-Channel 2



left: LwLVision(S)-MC2-ARU-PC computer module
 right: LwLVision(S)-MC2-ARU-REM user module

	Computer module	User module
Video		
Number of monitors	2	
Signal type/video	analog/digital single link video	
Resolution	btw. 640 x 480 @ 100 Hz and 1920 x 1200 @ 60 Hz	
Standards	DDC support	
Interfaces for user console	2 x DVI-I socket	2 x DVI-D socket, 2 x D-sub HD 15 socket
Interfaces to computer	1 x DVI-I socket	
Keyboard/Mouse		
Interfaces for user console	2 x Mini-DIN 6 socket	
		2 x USB-A socket
Interfaces to computer	1 x D-sub HD 15 plug	
	1 x USB-B socket	
Audio		
Design	internal	
Sampling rate	48 kHz	
Resolution	18 bit digital	
Bandwidth	22 kHz	
Microphone preamplification	20 dB	
Interfaces for user console		2 x 3.5 mm jack plug (speaker, micro in)
Interfaces to computer	2 x 3.5 mm jack plug (line in, line out)	
RS232		
Design	internal	
Transmission rate	max. 57,600 bit/s	
Transmittable signals	RxD, TxD, RTS, CTS, DTR, DSR, DCD	
Interfaces for user console		1 x D-Sub 9 plug
Interfaces to computer	1 x D-Sub 9 plug	

Transparent USB 1.1		
Design	internal	
Transmission length	multimode fibres up to 550 m singlemode fibres up to 2,000 m	
USB power supply	high power devices up to 500 mA	
USB transmission rate	up to 12 Mbit/s	
Interfaces for user console		4 x USB-A socket
Interfaces to computer	1 x USB-B socket	
Transmission		
Type of cable connection	dedicated fibre optic link	
Transmission cable type	singlemode/multimode fibres	
Transmission length (max.)	275 m over 2 multimode fibres (62.5/125µm) at max. resolution 550 m over 2 multimode fibres (50/125µm) at max. resolution 10,000 m over 2 singlemode fibres (9/125µm) at max. resolution	
Connection	2 x SC duplex socket	
No. of fibre optics	2	
Audio - RS232 transmission	no additional fibre optics	
USB 1.1 transmission	no additional fibre optics	
Main power supply		
Type	internal power pack	
Connection	1 x IEC plug	
Voltage	AC100-240V/60-50Hz	
	0.4-0.2A	04.-0.2A
USB 1.1 variant	0.4-0.2A	0.6-0.3A
Redundant power supply		
Type	external power pack	
Connection	Mini-DIN 4 socket	
Voltage	+12VDC/1.9A	
USB 1.1 variant	+12VDC/1.9A	+12VDC/3.0A
Casing		
Material	anodised aluminium	
Desktop (W x H x D)	210 x 44 x 210 mm	
Rackmount (W x H x D)	19" x 1 U x 210 mm	
Weight	approx. 2.1 kg	
Update		
Process	at service socket of computer module or user module	
Connection	1 x 2.5 mm jack plug	
Operating environment		
Temperature	+5 to +40 °C	
Air humidity	20 - 80% non-condensing	
Conformity	CE, RoHS	

List of Item Numbers Single-Channel (Multimode)

Item No.	Computer modules	AR	U	U2	DT	RM
A1110041	LwLVision(M)-AR-PC	AR			DT	
A1110042	LwLVision(M)-AR-PC-RM	AR				RM
A1110045	LwLVision(M)-ARU-PC	AR	U		DT	
A1110046	LwLVision(M)-ARU-PC-RM	AR	U			RM
A1110150	LwLVision(M)-ARU2-PC	AR	U	U2	DT	
A1110151	LwLVision(M)-ARU2-PC-RM	AR	U	U2		RM
A1110048	Twin-LwLVision(M)-AR-PC	AR			DT	
A1110050	Twin-LwLVision(M)-ARU-PC	AR	U		DT	RM
A1110154	Twin-LwLVision(M)-ARU2-PC	AR	U	U2	DT	RM
Item No.	User modules	AR	U	U2	DT	RM
A1120017	LwLVision(M)-AR-Rem	AR			DT	
A1120018	LwLVision(M)-AR-Rem-RM	AR				RM
A1120021	LwLVision(M)-ARU-Rem	AR	U		DT	
A1120022	LwLVision(M)-ARU-Rem-RM	AR	U			RM
A1120144	LwLVision(M)-ARU2-Rem	AR	U	U2	DT	
A1120145	LwLVision(M)-ARU2-Rem-RM	AR	U	U2		RM
A1120055	Twin-LwLVision(M)-AR-Rem	AR			DT	RM
A1120056	Twin-LwLVision(M)-ARU-Rem	AR	U		DT	RM

List of Item Numbers Single-Channel (Singlemode)

Item No.	Computer modules	AR	U	U2	DT	RM
A1110053	LwLVision(S)-AR-PC	AR			DT	
A1110054	LwLVision(S)-AR-PC-RM	AR				RM
A1110057	LwLVision(S)-ARU-PC	AR	U		DT	
A1110058	LwLVision(S)-ARU-PC-RM	AR	U			RM
A1110152	LwLVision(S)-ARU2-PC	AR	U	U2	DT	
A1110153	LwLVision(S)-ARU2-PC-RM	AR	U	U2		RM
A1110060	Twin-LwLVision(S)-AR-PC	AR			DT	RM
A1110062	Twin-LwLVision(S)-ARU-PC	AR	U		DT	RM
A1110155	Twin-LwLVision(S)-ARU2-PC	AR		U2	DT	RM
Item No.	User modules	AR	U	U2	DT	RM
A1120025	LwLVision(S)-AR-Rem	AR			DT	
A1120026	LwLVision(S)-AR-Rem-RM	AR				RM
A1120029	LwLVision(S)-ARU-Rem	AR	U		DT	
A1120030	LwLVision(S)-ARU-Rem-RM	AR	U			RM
A1120146	LwLVision(S)-ARU2-Rem	AR	U	U2	DT	
A1120147	LwLVision(S)-ARU2-Rem-RM	AR	U	U2		RM
A1120057	Twin-LwLVision(S)-AR-Rem	AR			DT	RM
A1120058	Twin-LwLVision(S)-ARU-Rem	AR	U		DT	RM

List of Item Numbers Multi-Channel (Multimode)

Art.Nr.	Computer modules (Multimode)	Audio- RS232	USB 1.1	USB 2.0	Desktop	Rack- mount
A1210039	LwLVision(M)-MC2-AR-PC	AR			DT	RM
A1210043	LwLVision(M)-MC2-ARU-PC	AR	U		DT	RM
Art.Nr.	User modules (Multimode)					
A1220015	LwLVision(M)-MC2-AR-Rem	AR			DT	RM
A1220019	LwLVision(M)-MC2-ARU-Rem	AR	U		DT	RM

List of Item Numbers Multi-Channel (Singlemode)

























Art.Nr.	Computer modules	Audio- RS232	USB 1.1	USB 2.0	Desktop	Rack- mount
A1210047	LwLVision(S)-MC2-AR-PC	AR			DT	RM
A1210051	LwLVision(S)-MC2-ARU-PC	AR	U		DT	RM
Art.Nr.	User modules					
A1220023	LwLVision(S)-MC2-AR-Rem	AR			DT	RM
A1220027	LwLVision(S)-MC2-ARU-Rem	AR	U		DT	RM

Legend

ABBREVIATIONS

CPU	=	Computer module	M	=	Multimode
PC	=	Computer module	S	=	Singlemode
CON	=	User module	RM	=	For assembly in a 19" rack
REM	=	User module	DT	=	Available as desktop variant
MC2	=	Multichannel 2	A	=	Audio
MC3	=	Multichannel 3	AR	=	Audio + RS232
MC4	=	Multichannel 4	R	=	RS232
			U	=	transparent USB 1.1
			U2	=	transparent USB 2.0
			D	=	Delay

EQUIPMENT FEATURES

 = keyboard/mouse	 = VT100
 = dual-link DVI video	 = KVM IP access
 = single-link DVI video	 = Network connection
 = single-link DVI + VGA	 = Web interface
 = VGA video	 = DevCon support
 = Audio	 = Monitoring
 = RS232	 = CAT cable
 = USB 1.1	 = Fiber optics
 = USB 2.0	 = Single user
 = Delay	 = Multi user
 = Screen Freeze	 = Separat local/remote user
 = Power Switching	
 = Fire Wire	