

Technical data

General features

DL-VISION(M/S) SERIES		
Graphics	Format:	DVI-D
	Colour depth:	24 Bit
	Video bandwidth:	25 to 330 MP / s
	Max. resolution:	▪ 2560 × 1600 @ 60Hz ▪ 4096 × 2160 @ 30Hz (UHD-4K)
	Exemplary 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 @ 60Hz (Ultra HD) ▪ 4096 × 2160 @ 60Hz
		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
	DDC	EDDC 1.2, DDC/CI
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, 1.5 Mbit/s, 12 Mbit/s
RS232	Transmission type:	transparent
	Transmission rate:	max. 230.400 bps
	Transmitted signals:	TxD, RxD, DTR, DSR, RTS, CTS, DCD
Main power supply	Type:	internal power pack
	Connection:	IEC plug(IEC-320 C14)
	Voltage:	AC100-240V/60-50Hz
Redundant power supply	Type:	internal power pack
	Connection:	IEC plug (IEC-320 C14)
	Voltage:	AC100-240V/60-50Hz

General module features

DL-VISION-CPU COMPUTER 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
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 variants	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): ▸ ARU2 variant	1 × LWL LC duplex socket
Other interfaces	Network connection:	2 × RJ45 socket
DL-VISION-CON 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: ▸ ARU2 variant	4 × USB-A 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: ▸ ARU2 variant	1 × LWL LC duplex socket
Other interfaces	Network connection:	2 × RJ45 socket

Specific variant features

DL-VISION(M/S)-AR-CPU COMPUTER 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 × 1U × 284.5 mm
	Weight:	approx. 2.9 kg
Operating environment	Temperature:	+5 to +45 °C
	Air humidity:	< 80%, non-condensing
DL-VISION(M/S)-AR-CON 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 × 1U × 284.5 mm
	Weight:	approx. 3.0 kg
Operating environment	Temperature:	+5 to +45 °C
	Air humidity:	< 80%, non-condensing
DL-VISION(M/S)-ARU2-CPU COMPUTER 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 × 1U × 284.5 mm
	Weight:	approx. 3.0 kg
Operating environment	Temperature:	+5 to +45 °C
	Air humidity:	< 80%, non-condensing
DL-VISION(M/S)-ARU2-CON 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 × 1U × 284.5 mm
	Weight:	approx. 3.1 kg
Operating environment	Temperature:	+5 to +45 °C
	Air humidity:	< 80%, non-condensing

DL-VISION(M/S)-MC2-AR-CPU | COMPUTER 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 × 1U × 284.5 mm
	Weight:	approx. 3.1 kg
Operating environment	Temperature:	+5 to +45 °C
	Air humidity:	< 80%, non-condensing

DL-VISION(M/S)-MC2-AR-CON | 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 × 1U × 284.5 mm
	Weight:	approx. 3.2 kg
Operating environment	Temperature:	+5 to +45 °C
	Air humidity:	< 80%, non-condensing

DL-VISION(M/S)-MC2-ARU2-CPU | COMPUTER 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 × 1U × 284.5 mm
	Weight:	approx. 3.2 kg
Operating environment	Temperature:	+5 to +45 °C
	Air humidity:	< 80%, non-condensing

DL-VISION(M/S)-MC2-ARU2-CON | USER MODULE

Current consumption	maximum:	100-240VAC/60-50Hz, 0.9-0.4A
Casing	Material:	anodised aluminium; nickel-plated steel (bottom)
	Dimensions (W × H × D):	435 mm × 1U × 284.5 mm
	Weight:	approx. 3.3 kg
Operating environment	Temperature:	+5 to +45 °C
	Air humidity:	< 80%, non-condensing

Technical data

DL-VISION(M/S)-MC4-ARU2-CPU COMPUTER MODULE		
Current consumption	maximum:	100-240VAC/60-50Hz, 0.6-0.3A
Casing	Material:	anodised aluminium; nickel-plated steel (bottom)
	Dimensions (W × H × D):	435 mm × 2U × 284.5 mm
	Weight:	approx. 4.5 kg
Operating environment	Temperature:	+5 to +45 °C
	Air humidity:	< 80%, non-condensing
DL-VISION(M/S)-MC4-ARU2-CON USER MODULE		
Current consumption	maximum:	100-240VAC/60-50Hz, 0.7-0.4A
Casing	Material:	anodised aluminium; nickel-plated steel (bottom)
	Dimensions (W × H × D):	435 mm × 2U × 284.5 mm
	Weight:	approx. 4.5 kg
Operating environment	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_3):	-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 9 µm SMF:	-8.2 dBm to +0.5 dBm
	Receiving sensitivity (P_{MIN}):	-12.6 dBm (OMA)
	Sensitivity – Stressed (P_3):	-10.3 dBm (OMA)

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

Technical data

General features

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)
	Exemplary 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 @ 60Hz (Ultra HD) 4096 × 2160 @ 60Hz
		nVidia 3D-Vision 120Hz: 1680 × 1050 @ 120Hz
		▸ further standardised resolutions possible
Audio ▸ DisplayPort Digital	Vertical frequency:	20 Hz to 120 Hz
	Horizontal frequency:	25 kHz to 185 kHz
	Transmission type:	2 channel LPCM, stereo
	Resolutions:	16/20/24 bit
Audio	Sampling rates:	32/44,1/48/88,2/96/176,4/192 kHz
	Transmission type:	analog, stereo
	Resolution:	24 bit
	Sampling rate:	96 kHz
USB ▸ ARU2 variant	Bandwidth:	22 kHz
	Specification:	USB 2.0
	Transmission type:	transparent
	Transmission rate:	max. 480 Mbit/s, 1,5 Mbit/s, 12 Mbit/s
RS232	Transmission type:	transparent
	Transmission rate:	max. 230.400 bps
	Transmitted signals:	TxD, RxD, DTR, DSR, RTS, CTS, DCD

DL-VISION-DP SERIES		
Main power supply	Type:	internal power pack
	Connection:	IEC plug(IEC-320 C14)
	Voltage:	AC100-240V/60-50Hz
Redundant power supply	Type:	internal power pack
	Connection:	IEC plug (IEC-320 C14)
	Voltage:	AC100-240V/60-50Hz

General module features

DL-VISION-DP-CPU COMPUTER 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
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: ▸ 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-CON | USER MODULE

Interfaces for console	Monitor: ‣ per video channel	1 × DisplayPort socket
	Keyboard:	1 × PS/2 socket 1 × USB-A socket
	Mouse:	1 × PS/2 socket 1 × USB-A socket
	Audio: ‣ AR & ARU2 variants	1 × 3.5 mm jack plug (Mirco In) 1 × 3.5 mm jack plug (Speaker)
	USB: ‣ ARU2 variant	4 × USB-A socket
	RS232: ‣ AR & ARU2 variants	1 × D-Sub9 socket
Interfaces for transmission	Video and input devices:: ‣ per video channel	1 × LWL LC duplex socket
	USB: ‣ ARU2 variant	1 × LWL LC duplex socket
Other interfaces	Network connection:	2 × RJ45 socket

Specific variant features**DL-VISION-DP-MC2-ARU2-CPU | COMPUTER MODULE**

Current consumption	maximum:	100-240VAC/60-50Hz, 0.6-0.3A
Casing	Material:	anodised aluminium; nickel-plated steel (bottom)
	Dimensions (W × H × D):	435 mm × 1U × 284.5 mm
	Weight:	approx. 3.3 kg
Operating environment	Temperature:	+5 to +45 °C
	Air humidity:	< 80%, non-condensing

DL-VISION-DP-MC2-ARU2-CON | USER MODULE

Current consumption	maximum:	100-240VAC/60-50Hz, 0.9-0.4A
Casing	Material:	anodised aluminium; nickel-plated steel (bottom)
	Dimensions (W × H × D):	435 mm × 1U × 284.5 mm
	Weight:	approx. 3.1 kg
Operating environment	Temperature:	+5 to +45 °C
	Air humidity:	< 80%, non-condensing

DL-VISION-DP-MC4-ARU2-CPU COMPUTER MODULE		
Current consumption	maximum:	100-240VAC/60-50Hz, 0.7-0.4A
Casing	Material:	anodised aluminium; nickel-plated steel (bottom)
	Dimensions (W × H × D):	435 mm × 2U × 284.5 mm
	Weight:	approx. 4.6 kg
Operating environment	Temperature:	+5 to +45 °C
	Air humidity:	< 80%, non-condensing
DL-VISION-DP-MC4-ARU2-CON USER MODULE		
Current consumption	maximum:	100-240VAC/60-50Hz, 0.8-0.4A
Casing	Material:	anodised aluminium; nickel-plated steel (bottom)
	Dimensions (W × H × D):	435 mm × 2U × 284.5 mm
	Weight:	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 OF THE TRANSMISSION MODULES		
Transmission	Wavelength(λ):	850 nm (840 nm to 860 nm)
	Optical power output (P_{AVG}) in 50 oder 62.5 μ m MMF:	-7.3 dBm to -1 dBm
	Receiving sensitivity (P_{MIN}):	-11.1 dBm (OMA)
	Sensitivity – Stressed (P_S):	-7.5 dBm (OMA, 50 μ m MMF)
USB 2.0 Trans.	Wavelength (λ):	850 nm (770 nm to 860 nm)
	Optical power output (P_{AVG}) in 50 or 62.5 μ m MMF:	-9.5 dBm to -3 dBm
	Receiving sensitivity (P_{MIN}):	-17 dBm
	Sensitivity – Stressed (P_S):	-13.5 dBm (50 μ m MMF)

Singlemode transmission modules

GENERAL FEATURES		
Data transmission	Type:	Optical fibres (2 fibres)
	Type of interface:	LC-Duplex
Cable length (max.) ▸ AR variant	Singlemode 9/125 μ m, class OS1:	10 kilometers
	Wavelength (λ):	1310 nm (1260 nm to 1355 nm)
Cable length (max.) ▸ ARU2 variant	Singlemode 9/125 μ m, class OS1:	2 kilometers
	Wavelength (λ):	1310 nm (1260 nm to 1360 nm)

PERFORMANCE DATA OF THE TRANSMISSION MODULES		
Transmission	Optical power output (P_{AVG}) in 9 μ m SMF:	-8.2 dBm to +0.5 dBm
	Receiving sensitivity (P_{MIN}):	-12.6 dBm (OMA)
	Sensitivity – Stressed (P_S):	-10.3 dBm (OMA)
USB 2.0 Trans.	Optical power output (P_{AVG}) in 9 μ m SMF:	-9.5 dBm to -3 dBm
	Receiving sensitivity (P_{MIN}):	-19 dBm
	Sensitivity – Stressed (P_S):	-14.4 dBm