proCam XS
4K manual focus USB medical camera

Novocam Medical Innovations Oy ▶▶

Everyday communication. The proCam XS is the best all around multi-mount medical camera on the market. Non-interruptive capture adds no time to treatments, allowing the doctor to use images with every patient to explain treatment need and progress. Everyday communication increases treatment acceptance rates, patient satisfaction and patient retention.

proCam XS with 16mm lens
PCXS1601

> The smallest multi-mount 4K medical camera
> The most UHD lens options for manual focus perfection in any scenario
> Offers the most mounting options: loupe, light, gooseneck, headband.
> Supports attachment to most loupe brands and styles.
> Supports many LED headlight models including the futulight.
> Always ready to use, USB plug-and-play simplicity.
> Hands-free operation with foot pedal.
> Includes futudent recording software and MyDentalBook to share images with patients and colleagues
> 4K / 1080p / 720 p @ 30fps
> 8.3MP images

OEM products – Our camera, your brand. OEM clients may request customizations such as: OEM logo / labelling on the camera, the surface finish type and colour, OEM company information in the camera firmware. Integration to OEM products possible. We recommend the smartCore camera electronics for OEM integration.

TECHNICAL DATA

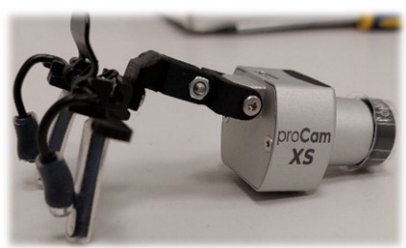|	
Sensor	SONY IMX 415 sensor with manual focus
Video res. & framerate	4K (3840 x 2160p) @ 30 fps Full HD (1920 x1080p) @ 30 fps HD (1080 x 720p) @ 30 fps
Image size (aspect ratio)	8.3MP (16:9) maximum
Lens options	ACCL1602: 16mm UHD standard lens with 2.5x magnification for best all-around use. ACCL2502: 25mm UHD close-up with 3.5x - 4.5x magnification. ACCL0801: 8mm UHD wide-angle with 1-1.5x magnification. ACCL3502: 35mm UHD extreme close-up with 5x magnification.
Materials	Aluminum, PA2200, glass, electronics
Dimensions	22mm wide x 20mm tall x 30mm long including lens
Weight	14 g (0.5 ounces) not including lens
Degree of protection	IPX1
Mounting options	Dental light with adhesive mounting clip and ball-joint Gooseneck / flexible arm with screw-on mounting clip and ball-joint Integrated into OEM equipment (see integration information)
Camera control options	PC software / keyboard interface USB Foot pedal (standard hands-free image capture)
Cable and Signal	USB 2.0 Hi-Speed (480Mbit/s) ⌀4mm cable with braided shield microUSB left-hand connector standard
Cable lengths	1.5m with USB cable (4mm dia.), up to 10m with active USB extension cable (4.75mm dia).
IEC 60601-1	Class I Type B protection class
IEC 60601-1-2	CISPR 11 Group 1 Class B classification
Rated power	5 V d.c. / 100mA nominal / 150mA maximum
Mode of Operation	Continuous operation as a USB device when PC is ON. OFF when USB port is disabled or PC is off.
Compliance	Class I EU MDR / FDA Class I Exempt / CE Marked / RoHS compliant

COMPUTER CONFIGURATION

Basic requirements for all systems	8GB RAM or higher
	Intel graphics card
	USB2 or USB3 port + additional port for USB foot pedal
	Identified as UVC driver camera device
	Network / internet if used for sharing images
	CPUBenchmark.net rating of 3000 (see video quality below)
	IEC 60601-1 compliant PC for USB electrical isolation
Windows basic requirements	Windows 10 or later operating system
	NET Framework 4.5
	Hardware encoding with QuickSync technology
MacOS basic requirements	OS X version 10.13 (High Sierra) or newer
	Recommended MacBook Pro, iMac, Mac-mini from 2018 or newer.
	Possible to use FullHD use MacBook Pro/Air, iMac, Mac-mini from 2017 or newer.

	HD (720p) mode	Full HD (1080p) mode	4K (2160p)
Video quality requirements	> Screen resolution of 1024x768 or higher. > CPU rating over 3000.	> Screen resolution of 1920x1080 or higher. > CPU rating over 5000.	> 16GB RAM > Screen resolution of 3840x2160 or more. > CPU rating over 10000.

|	
Controlling the system	The following controls and standard with every camera: > Foot pedal to capture images and video > Camera software GUI > PC Keyboard & Mouse

INTEGRATION RECOMMENDATIONS

Heat dissipation recommendations	− When enclosed inside OEM equipment, heat accumulation may cause the camera to stop working.
	− Install the camera away from heat generating electronics.
	− The equipment enclosure must have vents and additionally:
	   o A physical heat sink on the sides of the camera housing
	   o Active cooling with air
	− Do not integrate the camera to halogen lamps that generate high temperatures.
	   o high temperatures cause overheating and signal deterioration (stripes in the video).
	   o the exterior camera mount sticker may lose adhesion and fall.
	− LED lamp enclosure and surface temperatures vary. The OEM integrator is responsible to check the camera functionality in LED lamps.

Electrical recommendations	− Ground the proCam XS enclosure to the OEM equipment via the housing or cable. − Double insulation between the camera/cable and OEM equipment prevents signal interference. − Install away from other electrical devices, especially mains power parts. − Strain relief cables to prevent damaging the USB port of the camera. − The camera cable may not rotate 360°. Use a stopper or a swivel attachment to prevent twisting. − Hi-speed USB port protection is required to the following specification: o 500mA (internal DC/DC) / ESD protection (20kV) / Isolation withstands 5kV$_{RMS}$

Mechanical recommendations	− Install the camera as close to the centre of the light focus as possible so the camera image is centred and aimed correctly when the light is aimed.
	− The lens barrel should be accessible for the following purposes:
	   o Cleaning of the lens surface (user)
	   o Coarse autofocus lens adjustment (technician)
	   o Changing lens to a different magnification (technician)
	− The camera may be mounted using:
	   o OEM chassis in the OEM equipment, for example, with heat sinks
	   o 2xM2 DIN965 top headlight mounting holes and stability peg holes
	   o 2 x M2 DIN965 backplate loupe mount
	   o adhesive mounting clips (not recommended for high temperature areas)
	   o on the futudent gooseneck flexible arm with mechanical clips

PRODUCT PHOTOS

	proCam XS in standard grey/silver anodizing and black lasering. The lens is manual focus. 16mm standard lens default. Other standard lenses: • 25mm standard lens • 35mm close-up • 8mm wide-angle
	Loupe mounting with a loupe-specific attachment clip. The left-hand microUSB cable connector is default. The camera's Y-joint allows up-down adjustment of the camera position to aim.
	proCam XS as delivered, with loupe Y-mount attachment on the backplate and lens of choice installed. The top LED headlight clip is delivered with all proCam XS cameras.
	proCam XS installed on a gooseneck / flexible arm. A ball-joint attachment is provided with all proCam XS cameras. The gooseneck arm is an optional accessory.
	For overhead light attachment, the ball-joint mount attaches to an adhesive slider-clip that is stuck on to the lamp. Note: The adhesive is shown on a table top in this example.
	Universal loupe / glasses clip mounted on the proCam XS. All proCam XS cameras are delivered with a universal glasses clip. With this clip, the camera can be mounted to any pair of glasses, or suitably shaped surface. This installation is less secure than installation to loupes or light, and is recommended for temporary use only.

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	Serial number of camera	SN
	Manufacturer Name	▲▲
	CE mark	CE
	Read Instructions / QR code to access instructions	📖
	Medical Device symbol	MD