

Everyday communication. The smartCam 4K is most advanced, easy to use autofocus medical camera on the market. For OEM equipment, the smartCore may be ordered for integration. Both solutions give hands-free image capture that 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 retention.



smartCam 4K with 25mm lens
SMCS2501

- > The only light-mounted 4K autofocus medical camera
- > smartCam retrofits on to most operatory lights on the market
- > smartCore is the bare camera electronics for OEM integration
- > Light-mounted use provides image stability and a fast learning curve
- > 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 into OEM equipment is done with the smartCore camera electronics.

TECHNICAL DATA

Sensor	SONY IMX 415 sensor with autofocus lens motor
Video res. & framerate	4K (3840 x 2160p) @ 30 fps Full HD (1920 x 1080p) @ 30 fps HD (1080 x 720p) @ 30 fps
Image size (aspect ratio)	8.3MP (16:9) maximum
Auto focus distance from treatment area	Average Working Range: 30cm Minimum distance: 50cm - Maximum distance: 80cm
Lens	SMCS2501 – smartCam with 25mm XL lens (3.5-4x magnification) SMCS1601 – smartCam 16mm XL lens (1.5-2x magnification) CORE2501 – smartCore sensor only with 25mm XL lens CORE1601 - smartCore sensor only with 16mm XL lens
Materials	Aluminum, PA2200, glass, electronics
Dimensions	22mm wide x 27.5mm tall x 48.6mm long including lens
Weight	50 g (1.8 ounces) including lens
Degree of protection	IPX1
Mounting options	Dental light with adhesive mounting clip Gooseneck / flexible arm with mechanical mounting clip 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) Ø4mm 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 cables (4.75mm dia).
IEC 60601-1	Class I - no patient contact
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	smartCam is Class I EU MDR / FDA Class I Exempt / CE Marked / RoHS compliant smartCore is a RoHS compliant component.

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.		
Video quality requirements	HD (720p) mode > Screen resolution of 1024x768 or higher. > CPU rating over 3000.	Full HD (1080p) mode > Screen resolution of 1920x1080 or higher. > CPU rating over 5000.	4K (2160p) > 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	<ul style="list-style-type: none"> - When enclosed inside OEM equipment, heat accumulation may cause smartCam / smartCore to stop working. - Install the camera away from heat generating electronics. - The equipment enclosure must have vents and additionally: <ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> - Ground the smartCam / smartCore system to the OEM equipment via the housing or cable. - Double insulation between the smartCam / smartCore /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: <ul style="list-style-type: none"> o 500mA (internal DC/DC) / ESD protection (20kV) / Isolation withstands 5kV_{RMS}
Mechanical recommendations	<ul style="list-style-type: none"> - 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: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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

	<p>smartCam 4K in standard grey/silver anodizing and black lasering.</p> <p>SMCS2501 – 25mm XL lens, identified by a smooth lens sleeve.</p> <p>SMCS1601 – 16mm XL lens, identified with 1 ring on the lens sleeve.</p>
	<p>smartCam 4K as delivered, with ball-joint attachment on the back.</p> <p>The SmartCam is not recommended for loupe use because the autofocus requires a steady mount.</p>
 	<p>Top photo: Overhead light mounted with left-hand microUSB cable connector (black, 1.2m).</p> <p>Bottom photo: Overhead light mounted with straight microUSB cable (white, 5m).</p> <p>smartCam is delivered with both cables, and an additional 2 x 5m active USB extension cables.</p> <p>The ball-joint mount for light use attaches to an adhesive slider-clip on the lamp.</p>
	<p>Gooseneck (third-hand, assistant arm) mounted with left-hand microUSB cable connector.</p>

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