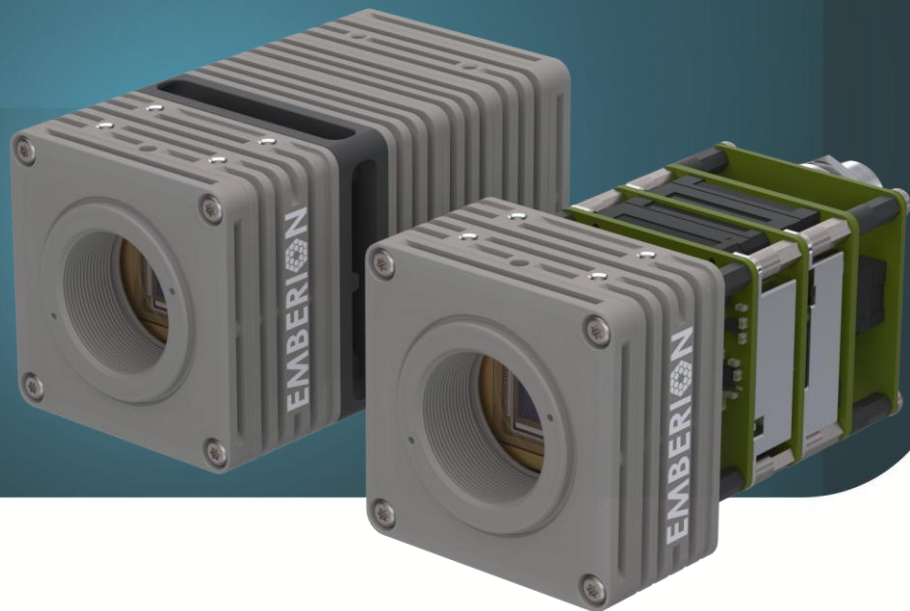


VS17 & VS20 series



EXTENDED SWIR CAMERA

KEY FEATURES



EXTENDED SWIR IMAGING (VS20)



HIGH DYNAMIC RANGE



COMPACT CAMERA DESIGN



FLEXIBLE OPTICAL MOUNT & LENS OPTIONS

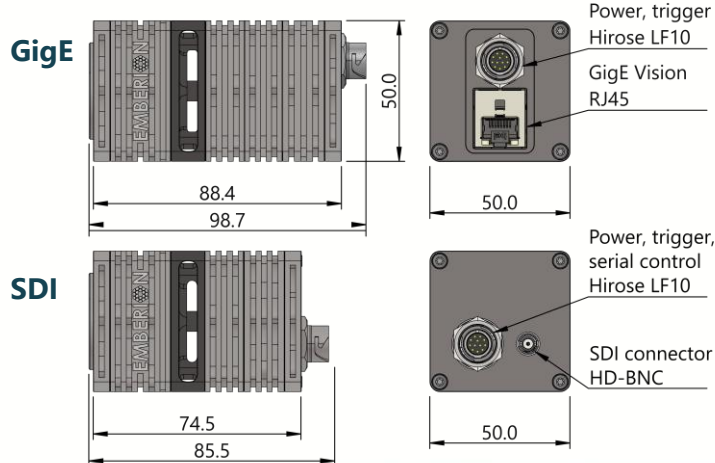
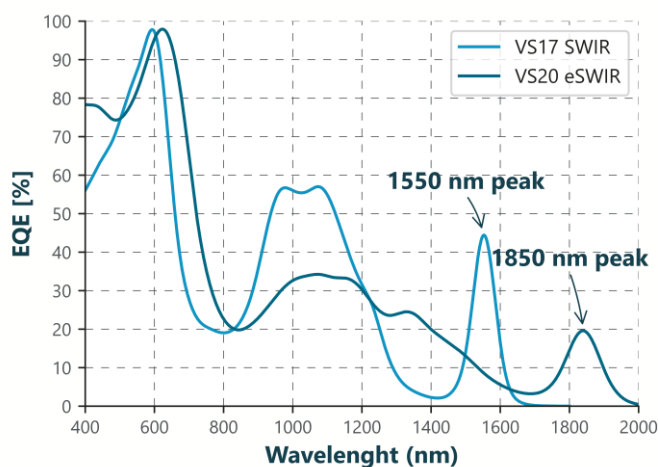
Exosens' The VS17 and VS20 are vis-SWIR cameras that use colloidal quantum dots (CQD) as the detector material.

The VS17 and VS20 offers a wide spectral range, from 400 nm to beyond 1700 nm (VS17) or 2000 nm (VS20). The spectral response can be tailored on request.

The high dynamic range and non saturating pixel structure make this an excellent option for surveillance, dynamic environments, or optical measurements that require a large dynamic response.



Camera Specifications	Product name	
Mechanical specifications	GigE	SDI
Dimensions (width x height x length) [mm]	50 x 50 x 99 mm	50 x 50 x 86 mm
Weight [gr] – excluding lens	450 g	380 g
Optical interface	C-mount	
Interface specifications	GigE	SDI
Command and control	GigE Vision, Genicam	Serial commands
Max frame rate [Hz] (full frame)	400 FPS	60 FPS
Digital output format	MONO16	SD-SDI, HD-SDI
Connector video	RJ45	HD-BNC
Connector power, trigger I/O	Hirose LF10, 12 pin	
Connector control	RJ45	Hirose LF10, 12 pin (RS485)
Trigger	2x trigger in; 2x trigger out (2x opto-isolated, 2x non-isolated 3.3V)	
Environmental & power specifications	GigE	SDI
Operating case temperature [°C]	-20° to +40°C	-40° to +60°C
Power consumption [W]	11 W @ 400 FPS, Ta = 20°C	7 W @ 60 FPS, Ta = 20°C
Power supply voltage	12 V	
Regulatory compliance	CE, UKCA, FCC, ICED	t.b.d.
Electro-optical specifications	VS17	VS20
Image format [pixels]	640 x 512 px	
Pixel pitch [μm]	20 x 20 μm	
Detector type	Colloidal quantum dot pin photodiode	
Sensor temperature stabilization	1-stage TEC stabilised	
Integration type	Open-circuit voltage mode	
Active area and diagonal [mm]	12.80 x 10.24 mm	
Optical fill factor	90%	
Spectral range [nm]	400 ~ 1700 nm	400 ~ 2000 nm
Quantum efficiency @ SWIR peak	45% @ 1550 nm	20% @ 1850 nm
Noise equivalent irradiance (NEI) @ SWIR peak	$5 \times 10^{-4} \text{ W/m}^2$ $T_{\text{exp}} = 10 \text{ ms}, T_{\text{DETECTOR}} = 25^\circ\text{C}$	$8 \times 10^{-4} \text{ W/m}^2$ $T_{\text{exp}} = 10 \text{ ms}, T_{\text{DETECTOR}} = 25^\circ\text{C}$
Dynamic range (optical input)	120 dB	
Read noise [electrons]	200 e-	
Input referred voltage noise	200 μV	
Read out modes	Integrate then readout (ITR), Integrate while readout (IWR)	
Pixel operability	> 99.9%	
Exposure time range [ms]	0.1 to 100 ms	



advancedimaging@exosens.com



exosens.com

EXOSENS
REVEAL THE INVISIBLE