



Preliminary

2021

EHD IK-393 Series VIS-SWIR Cameras



EHD imaging GmbH

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VIS-SWIR-USB3.2 Cameras IK393-Series with Sony IMX990 & IMX991 InGaAs Sensors.

Description

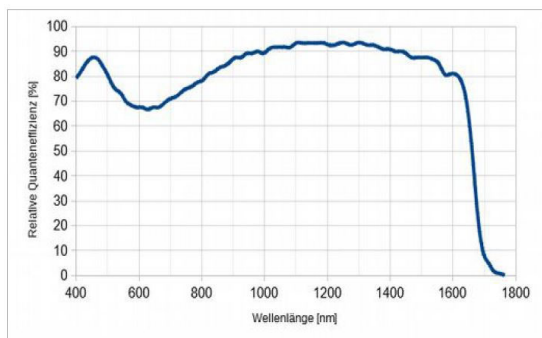
The special camera system IK39355-E03 is a camera system adapted for special tasks in hyperspectral and spectral broadband image InGaAs camera with a spectral range from 400 nm to 1700 nm (VIS to SWIR/NIR).

It is one of a family of InGaAs special cameras from special cameras of EHD imaging GmbH, which are available with different features for a wide range of applications. Typical applications for this highly sensitive camera include metrology, material analysis as well as the application as high-quality process monitoring and spectroscopy camera.

The image sensor used with a resolution of 12 bit/pixel allows image acquisition with high dynamic range of the light in the object scene. The fast frame rate together with the high sensitivity in the near infrared range, enables best results in measurement, image processing and documentation tasks. The single-stage thermoelectric cooler is integrated in the housing of the image sensor.

The passive cooling of the camera with specially housing design allows continuous operation without the use of an additional fan. This concept allows the image sensor to be kept at least 20 K below ambient temperature with passive cooling. Thus low noise images with long exposure times are possible. The camera's fast USB3.2 interface allows for the transmission of uncompressed live images at full 1.31 megapixel sensor resolution at a maximum of 134 frames per second, and 258fps with the 0.33MP sensor. With this interface, the camera can be easily connected to any desktop PC or notebook/laptop. The camera also includes opto-decoupled, digital outputs and inputs as well as a fast 5V-tolerant trigger input. The delay time of the trigger signal is much less than 1 μ s.

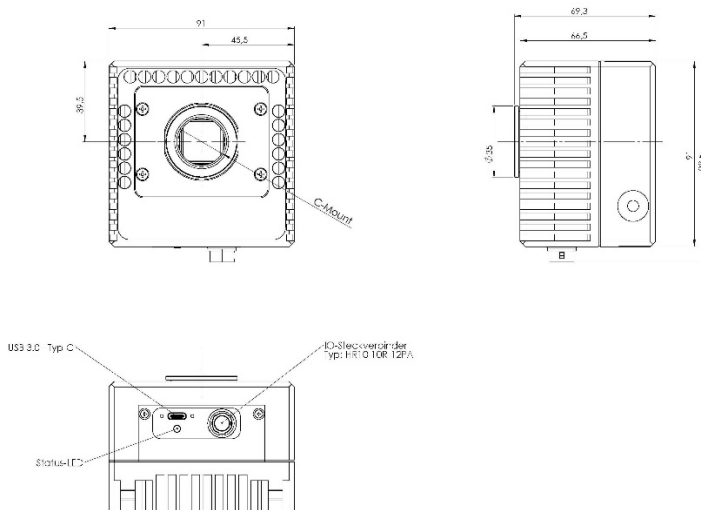
Quantum Efficiency



Design



Dimensions



EHD IK39355 TEC Technical Data

Sensor	Sony IMX990 ½" InGaAs progressive scan CMOS
Resolution	1280 x 1024 Pixel, 8.2mm diagonal
Pixelsize	5µm x 5µm
Framerate	134fps@8bit, 71fps@12bit
Shutter	Global Shutter
Exposure Time	14µs to hours
A/D Resoluton	8bit / 10bit / 12bit
Gain	1 to 128 x (analog & digital)
Fullwell Capacity	140ke
Interface	USB3.2 Gen 1 (5Gbit/s)
Supply Power	USB bus powered – USB Cable Type C
Power Consumption	Max. 10.0W
Sensor Cooling	TEC (peltier)
Operation Temperature	+0°C to +50° C
Dimensions	69.3 x 91 x 91 mm
Weight	Approx.. 650g
Lens Mount	C-Mount
I/O	Digital Out (2x opto-isolated) Strobe Digital In (2x opto-isolated) TTL-Trigger In (fast)

EHD IK39353 Technical Data

Sensor	Sony IMX990 ½" InGaAs progressive scan CMOS
Resolution	1280 x 1024 Pixel, 8.2mm diagonal
Pixelsize	5µm x 5µm
Framerate	134fps@8bit, 71fps@12bit
Shutter	Global Shutter
Exposure Time	14µs to hours
A/D Resoluton	8bit / 10bit / 12bit
Gain	1 to 128 x (analog & digital)
Fullwell Capacity	140ke
Interface	USB3.2 Gen 1 (5Gbit/s)
Supply Power	USB bus powered – USB Cable Type C
Power Consumption	Max. 4.0W
Sensor Cooling	NON
Operation Temperature	+0°C to +50° C
Dimensions	69.3 x 91 x 91 mm
Weight	Approx.. 650g
Lens Mount	C-Mount
I/O	Digital Out (2x opto-isolated) Strobe Digital In (2x opto-isolated) TTL-Trigger In (fast)

EHD IK39325 TEC Technical Data

Sensor	Sony IMX991 1/4" InGaAs progressive scan CMOS
Resolution	640 x 512 Pixel, 4.1mm diagonal
Pixelsize	5µm x 5µm
Framerate	258fps@8bit, 137fps@12bit
Shutter	Global Shutter
Exposure Time	15µs to hours
A/D Resoluton	8bit / 10bit / 12bit
Gain	1 to 128 x (analog & digital)
Fullwell Capacity	140ke
Interface	USB3.2 Gen 1 (5Gbit/s)
Supply Power	USB bus powered – USB Cable Type C
Power Consumption	Max. 10.0W
Sensor Cooling	TEC (peltier)
Operation Temperature	+0°C to +50° C
Dimensions	69.3 x 91 x 91 mm
Weight	Approx.. 650g
Lens Mount	C-Mount
I/O	Digital Out (2x opto-isolated) Strobe Digital In (2x opto-isolated) TTL-Trigger In (fast)

EHD IK39323 Technical Data

Sensor	Sony IMX991 1/4" InGaAs progressive scan CMOS
Resolution	640 x 512 Pixel, 4.1mm diagonal
Pixelsize	5µm x 5µm
Framerate	258fps@8bit, 137fps@12bit
Shutter	Global Shutter
Exposure Time	15µs to hours
A/D Resoluton	8bit / 10bit / 12bit
Gain	1 to 128 x (analog & digital)
Fullwell Capacity	140ke
Interface	USB3.2 Gen 1 (5Gbit/s)
Supply Power	USB bus powered – USB Cable Type C
Power Consumption	Max. 4.0W
Sensor Cooling	NON
Operation Temperature	+0°C to +50° C
Dimensions	69.3 x 91 x 91 mm
Weight	Approx.. 650g
Lens Mount	C-Mount
I/O	Digital Out (2x opto-isolated) Strobe Digital In (2x opto-isolated) TTL-Trigger In (fast)