shr411MCX

SHR CoaXPress

Highest resolution made in Germany

The SHR series combines large pixel structures with highest resolutions. The physical characteristics of large pixels guarantee outstanding image quality. High-quality harmonisation of the pixels with defect pixel correction provides a noise-free image. The camera offers the highest structural precision in sensor adjustment in a massive, thermally highly optimised housing. The large M72 lens mount can be adapted to any lens. This makes the SHR the camera for the most demanding optical tasks.

The high-performance CoaXPress interface enables the fastest high-speed data transfer with excellent latency behaviour. The camera is equipped with a comprehensive I/O interface with galvanic interface separation, sequencer and integrated multi-channel LED light control.

Technical Highlights

> Outstanding image quality
> High color depth
> High dynamic range
> Excellent image homogeneity
> User defined lens shading correction
> User defined pixel correction
> High-speed CXP-6 and CXP-12 quad interfaces
> Safe signal with Schmitt-trigger, debouncer
> Industrial I/O concept: up to 24 V signal voltage
> GenICam interface
> Industrial TTL-24V I/O interface with SafeTrigger, programmable logic functions, sequencer, timer, RS232

CoaXPress specific features

> Quad CoaXPress-6 or CoaXPress-12
> Power over CoaXPress

The SHR offers excellent properties for inspection tasks in the wafer, flat panel or solar panel business. The CoaXPress version provides the benefit of long distance data cables.

SHR Series shr411MCX

Resolution [MP]	151 MP
Resolution (h x v)	14192 x 10640 px
Frame rate (max.)	6.1 fps
Chroma	mono
Interface	4 CXP-6 Connections

Sensor

Sensor	IMX411ALR
Manufacturer	Sony
Sensor type	Area CMOS
Shutter type	rolling shutter
Sensor size (h x v)	53.36 x 40.01 mm
Optical diagonal	66.69 mm
Sensor format	Medium Format
Pixel size (h x v)	3.76 x 3.76 µm

Camera

Exposure modes	MANUAL;AUTO
Trigger modes	INTERNAL;SOFTWARE;EXTERNAL
Exposure time (min)	60 µs
Exposure time (max)	1 sec
Pixel format / max	mono8, mono10, mono12, mono16 / 16 bit
Gain modes / max	manual, auto / 36 dB
S/N ratio (max)	46.7 dB (dep. on environment)
Dynamic range (max)	82 dB (dep. on environment)
Internal memory	512 MB SDRAM, 160 MB Flash

Feature Set

AOI	yes
LUT	yes
Offset	yes
Binning	yes
Image flip	yes
Shading correction	yes (external)
Defect pixel correction	yes
Sequencer	yes

Housing

Lens mount	M72x0.75
Dimensions (w x h x d)	80 x 80 x 83 mm
Weight	600 g
Operating temperature (housing)	-10 to 70 °C
Ambient humidity	10 to 90 % (non-condensing)
Protection class	IP30

I/O-Interfaces

Input up to 24V	2 x
Input OPTO	1 x
Output open drain	4 x
I/O RS-232	1 x

Dimensions [mm]

front view · back view · cross section · right view · top view · bottom view · 3D view
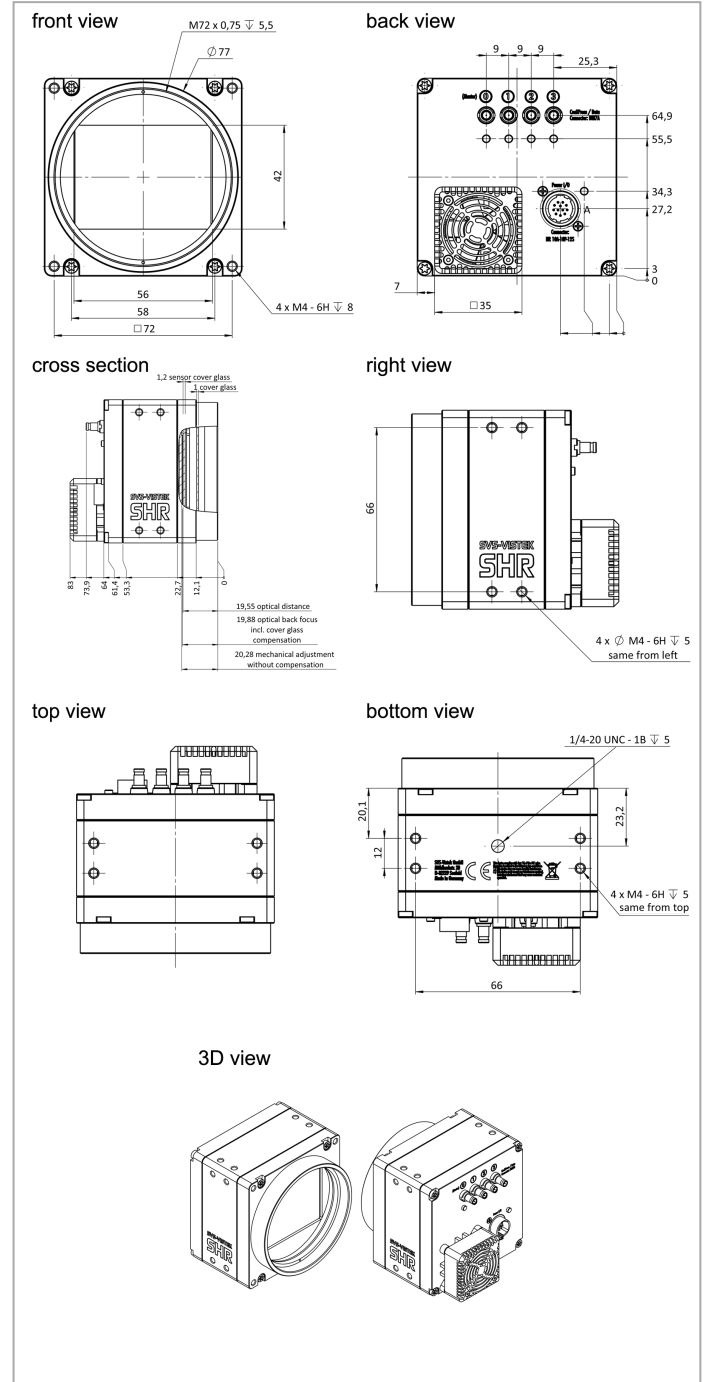
Pinout Mating Connector

Hirose 12 Pin						
	1	VIN –	(GND)	7	OUT 1	(open drain)
	2	VIN +	(10 V to 25 V DC)	8	OUT 2	(open drain)
	3	IN 4	(RXD RS232)	9	IN 3 +	(opto In +)
	4	OUT 4	(TXD RS232)	10	IN 3 –	(opto In –)
	5	IN 1	(0 - 24V)	11	OUT 3	(open drain)
	6	IN 2	(0 - 24V)	12	OUT 0	(open drain)

Spectral Response *

Power supply	10 to 25 V (DC)
Power consumption	14 W (dep. on operating mode)

Monochrome
(not included: lens- and light source characteristics)

Relative Sensitivity [%] / Wavelength [nm]
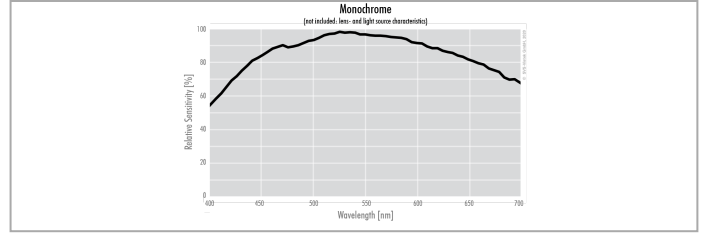
* Sensor data — excludes camera cover- or IR-cut filter characteristics