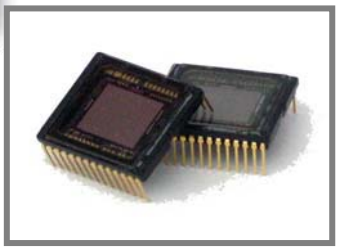
kappa

Digital GigE Vision Camera
Zelos - 655 GV PoE

NEW



- 5 mega pixel sensor, 2448 x 2050 pixel
- Color | monochrome
- Progressive scan
- 14 bit digital
- up to 9 Fps
- GigE Vision
- High transfer rate (1 Gbit/s)
- up to 100 m (300 feet) CAT5e cabling
- Numerous real time signal processing functions
- Kappa-made first-class color processing
- Binning | partial scan
- Reset | restart, frame on demand, external sync
- Free software Development Kit
- Control software KCC
- Single cable connection Power over Ethernet (PoE)
- Rugged Quality according to (DIN EN 60068)
- Option: Interface Camera Link

Kappa introduces a new vision camera based on our modular high-performance platform with 14-bit digitization. The first model, the Zelos-655 has a GigE Vision interface and offers a resolution of 2448 x 2050 pixel and a frame rate of up to 9 fps. It fulfills all typical Kappa quality characteristics regarding hardiness and longevity.

The camera features several technical highlights. One of them is the Sony Sensor ICX 655, which excellent dynamic range and the best image performance. A further plus is the high-performance GigE Vision interface and die single cable connection with "Power over Ethernet, PoE".

The brilliant visualization of the smallest details with the lowest-contrast is the result of the numerous real-time signal processing functions based on a 14 bit digitization. Among the functions are adjustments of different exposure modes, read-out modes (e.g., binning, partial scan), frame rates, gain and exposure settings, measuring window functions, contrast and edge enhancement functions (e.g., histogram equalization), line and circular line generators and loadable look-up tables. The Kappa-made color processing offers adjustments for the RGB Bayer filter interpolation, and color saturation.

The modular camera platform can serve different sensors and signal interfaces and thus can fulfill the requirements for machine vision applications as well as other areas of application.

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GiGE VISION

- High transfer rate (1 Gbit/s)
- low-priced interface on the PC
- Inexpensive cabling with thin CAT5e cables up to 100 m (300 feet)
- Standardized user-friendly communication protocol

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Zelos - 655 GV PoE

Technical Data

Sensor-specific data				
CCD sensor	2/3" interline transfer CCD progressive scan with micro lenses (Sony ICX655, Super HAD)			
Pixel size (H x V)	3,45 µm x 3,45 µm			
Light-sensitive area (H x V)	8,74 mm x 7,13 mm			
Number of pixels (H x V)	2448 x 2050 active, 2536 x 2068 total			
Spectral sensitivity (without IR –filter)	350 nm – 1100 nm			
Full well capacity	6000 e^-			
A/D-conversion factor	0,366 e^- / increment			
Filter	RGB Bayer Filter / IR-filter			
Dynamic range	52 dB (measured in dark image, at 111ms exposure time at 0 dB gain)			
Interface-specific data				
Interface	Gigabit Ethernet			
Coding	Color YUV 4:2:2, RGB 24, Mono 14 (RAW data) Mono 14, Mono 12, Mono 8			
Camera output format	full frame:	2448 x 2050 pixel, 9 fps		
	mono binning: image size (pixel): frame rate:	2 fold 1224 x 1025 15 fps	4 fold 612 x 512 31 fps	8 fold 306 x 256 65 fps
	partial scan:	image size freely adjustable		
Exposure	manual: automatic (AE):	1 µs up to 120 s 1 µs up to 111 ms at 2448 x 2050 pixel		
Signal Processing				
System	14 bit digital			
Gain	manual/automatic (AGC): 0 up to 18 dB			
Enhancement	contrast: 1.0 up to 8.0 fold, brightness/subtraction 0 up to 16383 LSB, max. 50% balance; edge enhancement adjustable; histogram equalization			
Color processing	light source, color setting (RGB), automatic white balance, color saturation			
Gamma	0.3 up to 2.2, loadable			
Diagnostics	e.g. sensor/camera temperature, built-In test, image size, refresh rate, test pattern			
Line generator	2 cross lines: position, color and style adjustable, circular line			
Measuring windows	position and dimensions adjustable			
Look-up table	loadable			
Synchronization	intern/extern, reset/restart (delay <10 µs), frame on demand			
Trigger	Hardware Trigger: Variable adjustable, fixe trigger delay < 10 µs; frame on demand Software Trigger: via Software Development Kit (SDK 4)			
System Integration				
System requirements	separate data sheet			
Software	separate data sheet (SDK4 - Software Development Kit and KCC - Control Software)			
Interface protocol	GigE Vision			
General				
Interfaces	RJ45 connector (Gigabit Ethernet, PoE), 10-pol system connector (control and trigger signals)			
Lens mount	C-mount, focal plane adjustable, CS-mount on request			
Filter	IR-filter, removable			
Temperature	operating temperature -20°C to +65°C, storage temperature -30°C to +70°C			
Power supply	PoE, ~4,5 W			
Dimensions / Weight	50 x 50 x 58 mm / approx. 200 g			
Cable length	Ethernet (minimum CAT5e) up to 100 m			
Order-no.	color: monochrome:	Zelos-655C GV PoE Zelos-655M GV PoE	961-2153 951-2153	
Standard equipment	Camera, CD (KCC, SDK4)			

We are constantly checking the accuracy of the technical data. We are prepared to provide more detailed information on request.
Technical data are subject to change without notice!

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