

Digital GigE Vision Camera Zelos - 655 GV



The 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 pixels and a frame rate of up to 9 fps. It provides all typical Kappa quality characteristics for extraordinary hardness and longevity.

The camera features several technical highlights. One of them is the Sony Sensor ICX 655, with an excellent dynamic range and optimum image performance. A further plus is the high-performance GigE Vision interface and with 1 Gbit/s data transfer.

The brilliant visualization of the smallest details with the lowest-contrast is the result of

numerous real-time signal processing functions. Among the functions are adjustments for different exposure modes, read-out modes (e.g., binning, partial scan), frame rates, gain settings, measuring window functions, contrast and edge enhancement functions (e.g., histogram stretching), 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.

Kappa

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.

SDK Zelos

Control software KCC Zelos

Option: Real-Time Recording
(KCC Zelos Recording)

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

realize visions .





Zelos - 655 GV

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	
	binning:	2 fold	4 fold
	 image size (pixel):	1224 x 1025	612 x 512
	 frame rate:	15 fps	31 fps
	partial scan:	image size freely adjustable	
Exposure	manual:	1 μs up to 120 s	
	automatic (AE):	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	edge enhancement adjustable; histogram stretching, histogram equalizations
Color processing	 light source, color setting (RGB), automatic white balance, color saturation
Gamma	0.3 up to 2.2, loadable
Diagnostics	e.g., image size, refresh rate, test pattern
Line generator	2 reticles: position, color and style adjustable, circular line
Measuring windows	position and dimensions adjustable
Look-up table	loadable
Synchronization	internal/external, reset/restart (delay <10 μs), frame on demand
Trigger	hardware trigger: variable adjustable, fixed trigger delay < 10 μs ; frame on demand software trigger: via software development kit (SDK Zelos)

System Integration

System requirements	separate data sheet
Software Zelos Tools	separate data sheet software development kit (SDK Zelos) and control software (KCC Zelos)
Interface protocol	GigE Vision

General

Interfaces	RJ 45 (Gigabit Ethernet), 10-pin system connector (power supply, 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	9 - 36 V DC, ~4 W
Dimensions / Weight	50 x 50 x 58 mm (1,97" x 1,97" x 2,28") / approx. 200 g (7,05 oz.)
Cable length	Ethernet (minimum CAT5e) up to 100 m
Order-no.	 color: Zelos-655C GV 961-2153  monochrome: Zelos-655M GV 951-2153
Standard equipment	Camera, CD Zelos Tools (KCC Zelos, SDK Zelos)

The control software KCC Zelos does not allow access to all camera functions. 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!