

CV60 Series

High-resolution CMOS sensors that deliver outstanding frame rates

The CV60 Series of area scan cameras deliver outstanding image quality and industrial grade reliability in a compact footprint for a variety of industrial machine vision inspection applications.

With eight models to choose from (four monochrome, four color), the CV60 Series features high-resolution CMOS sensors with resolutions ranging from 2.3 to 12.4 megapixels, with GigE Vision interface.



Every model comes standard with industrial grade shock and vibration ratings (80G/10G), excellent thermal dissipation, and outstanding reliability to keep critical inspection systems running at maximum uptime.

The CV60 Series includes a robust set of capabilities like region-of-interest (ROI), image flipping and mirroring (most models), blemish compensation and shading correction – plus, advanced features like two different sequencer modes and an intelligent, user-customizable auto-exposure function (ALC).

Additional features include pixel size rescaling and lossless video compression.

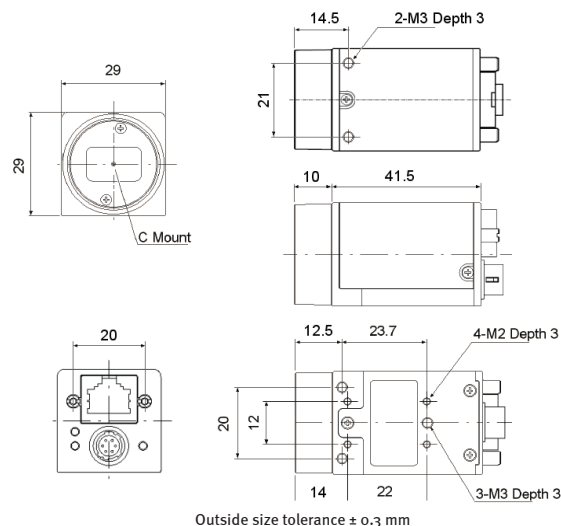
- A powerful combination of price and performance
- ROI settings for added flexibility
- Horizontal/vertical image flip function, plus blemish correction and shading compensation
- Includes Sequencer function and Automatic Level Control (ALC) for dynamic lighting conditions
- Compact size with excellent shock and vibration resistance
- Accepts power over GigE Vision interface or separate 6-pin connector
- C-mount lens mount

Portfolio Specifications for CV60

CV60 Series

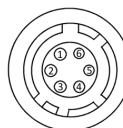
System clock	74.25 MHz (for pulse generator)
Read-out modes	4096 (h) x 3000 (v) up to 9.3 fps H: 96 - 4080 pixels in 16-pixel steps V: 8 to 2998 lines in 2-line steps 1x2, 2x1, 2x2 (mono only)
Full ROI (single)	
Binning	
EMVA 1288 Parameters	10-bit output format
Absolute sensitivity	Mono: 3.62 p Color: 3.86 p (l = 527 nm)
Maximum SNR	Mono: 39.7 dB Color: 39.7 dB
Traditional SNR*	>60 dB mono, >60 dB color (0 dB gain, 10-bit)
Video signal output	Monochrome: 8/10/12-bits [†] Color: 8/10/12-bit Bayer [†]
Gain control	Manual/auto 0 dB to +24 dB
White balance	Off, presets, or one-push/continuous AWB
Gamma/LUT	0.45 to 1.0 (9 steps) or 257-point programmable LUT
Synchronization	Internal
Video modes	Normal/Single ROI, Sequencer (Trigger & Command)
Trigger input	Opto In, Pulse Generators (4), Software, NAND Out (2), User Output (4)
Exposure modes	Timed/EPS, RCT, Trigger Width, Auto
Electronic shutter	Timed: 15.26 μ s to 8 s in 1 μ s steps Auto: 100 μ s to 107.5 ms at full resolution
Auto Level Control (ALC)	Shutter range from 100 μ s to 107.5 ms, gain range from 0 dB to +24 dB. Tracking speeds and max. values adjustable.
Shading correction	Flat shading, color shading (color model)
Pre-processing functions	H & V flip (mirroring), blemish compensation, H & V decimation
Operating temp. (ambient)	-5°C to +45°C (20 to 80% non-condensing)
Storage temp. (ambient)	-25°C to +60°C (20 to 80% non condensing)
Vibration	10G (20 Hz to 200 Hz, XYZ directions)
Shock	80G
Power	6-pin PoE +10V to +25V DC. 2.7 W typical @ +12 V +36V to +57 V DC. 3.7 W typical @ +48 V
Lens mount	C-mount
Dimensions (H x W x L)	29 mm x 29 mm x 51.5 mm
Weight	65 g

Dimensions



Connector pin-out

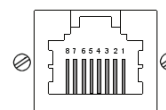
DC In / Trigger



HIROSE

Pin	Signal
1	DC in +10V to +25V
2	Opto In+
3	Opto In-
4	Opto Out+
5	Opto Out-
6	Ground

GigE Vision Interface



RJ-45 with locking screws

Pin	Signal
1	TRD+ (0)
2	TRD- (0)
3	TRD+ (1)
4	TRD+ (2)
5	TRD- (2)
6	TRD- (1)
7	TRD+ (3)
8	TRD- (3)

Specifications subject to change without notice.

Model Specifications

	2.3 MP Mono GigE, IMX392	2.3 MP, Color GigE, IMX392	5 MP Mono GigE, IMX264	5 MP Color GigE, IMX264	8.9 MP, Mono GigE, IMX267	8.9 MP, Color GigE, IMX267	12.4 MP, Mono GigE, IMX304	12.4 MP, Color GigE, IMX304
Color / Mono	Mono	Color	Mono	Color	Mono	Color	Mono	Color
Sensors	2.3 MP	2.3 MP	5 MP	5 MP	8.9 MP	8.9 MP	12.3 MP	12.3 MP
Pixels	1920 x 1200px	1920 x 1200px	2448 x 2048px	2448 x 2048px	4096 x 2160px	4096 x 2160px	4096 x 3000px	4096 x 3000px
Light Spectrum	Visible + NIR	Visible	Visible + NIR	Visible	Visible + NIR	Visible	Visible + NIR	Visible
Frame Rate	50 fps	50 fps	22 fps	22 fps	12 fps	12 fps	9 fps	9 fps
Sensor Name	IMX392	IMX392	IMX264	IMX264	IMX267	IMX267	IMX304	IMX304
Optical Format	1/2.3 inch	1/2.3 inch	2/3 inch	2/3 inch	1 inch	1 inch	1.1 inch	1.1 inch
Sensor Diagonal	7.8 mm	7.8 mm	11 mm	11 mm	16 mm	16 mm	17.5 mm	17.5 mm
Active Sensor Area	6.6 x 4.4 mm	6.6 x 4.4 mm	8.5 x 7.1 mm	8.5 x 7.1 mm	14.1 x 7.4 mm	14.1 x 7.4 mm	14.1 x 10.3 mm	14.1 x 10.3 mm

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