

❖ **EL-2800-GE2**  
2.8-megapixel Progressive Scan CCD



- *2/3" progressive scan CCD*
- *54.6 fps at full resolution*
- *4.54 μm square pixels with 4:3 aspect ratio*
- *Latest Sony EXview HAD CCD II pixel technology for increased sensitivity and NIR response*
- *Monochrome or color models with built-in color interpolation on color model*
- *Variable partial scanning for increased frame rates*
- *Vertical and horizontal binning on monochrome model*
- *Exposure control from 10 μs (1/100,000) to 8 seconds in 1 μs steps*
- *Flat-field, color shading, and pixel blemish correction*
- *8/10/12-bit digital output over dual GigE Vision 2.0 interface with Link Aggregation*
- *C-mount lens mount*
- *Automatic Level Control (ALC) for dynamic lighting conditions*
- *Programmable P-iris lens control or 3-axis control for operation of motorized lenses, pan/tilt heads, or other analog accessories*



# Specifications for EL-2800-GE2

# Elite Series

Specifications	EL-2800-GE2
Sensor	2/3" progressive scan CCD (ICX674)
Pixel clock	54 MHz
Frame rate, full frame	54.6 frames/sec
Active area	8.72 mm (h) x 6.54 mm (v), 10.97 mm diagonal
Cell size	4.54 μm (h) x 4.54 μm (v)
Active pixels	1920 (h) x 1440 (v)
Horizontal output frequency	40.693 kHz (4-taps, binning off)
Read-out modes	Full 1920 (h) x 1440 (v) up to 54.6 fps ROI (mono) 8 to 1440 lines in 1 line steps ROI (RGB) 8 to 1440 lines in 2 line steps Binning 1x2, 2x1, 2x2 (monochrome only)
EMVA 1288 Parameters	12-bit output format
Absolute sensitivity (mono)	15.94 p (λ = 525 nm)
Absolute sensitivity (color)	23.71 p (λ = 525 nm)
Maximum SNR (mono)	41.39 dB
Maximum SNR (color)	41.52 dB
Traditional SNR*	mono >61 dB (0 dB gain) color >58 dB (0 dB gain, green)
Video signal output	mono 8/10/12-bit monochrome color (raw) 8/10/12-bit raw Bayer color (interpolated) 24-bit RGB, YUV 411, YUV 422, YUV 444
Auto-iris lens video output	0.7Vp-p, with 0.3V horiz. sync
Gain	mono Manual/automatic 0 dB to +30 dB color Manual/automatic 0 dB to +27 dB
White balance (EL-2800C)	Manual, one-push auto, or continuous (3000K to 9000K)
Gamma	0.45-1.0 (8 steps) or 256-point LUT
Synchronization	Internal
Trigger input	Opto In (2), Pulse Generators (4), Software, User Output (4), Actions (2)
Trigger modes	EPS, PIV, Trigger Width, Timed RCT (with ALC), Sequence
Electronic shutter	Timed exposure 10 μs to 8 sec in 1 μs steps Auto shutter 1/54 to 1/100000 sec.
Auto Level Control (ALC)	Shutter range from 1/54 to 1/100000, gain range from 0 dB to +30 dB, auto iris control. Tracking speeds and max values adjustable.
Pre-processing functions	Flat field correction, color shading correction (EL-2800C), blemish compensation (512 pixels)
Lens control	P-iris or programmable control of motorized lenses, pan/tilt heads and other analog accessories
Operating temperature	-45°C to +70°C†
Storage temperature	-45°C to +70°C
Humidity	20 – 80% non-condensing
Vibration	10 G (20Hz to 200Hz XYZ)
Shock	80 G
Regulations	CE (EN61000-6-2, EN61000-6-3), FCC Part 15 class B, RoHS/WEEE
Power	12V to 24V DC ± 10%. 7.44W typical (full frame @ 12V)
Lens mount	C-mount (fixed or adjustable)
Dimensions (H x W x L)	62 mm x 62 mm x 55.5 mm
Weight	245 g

## Ordering Information

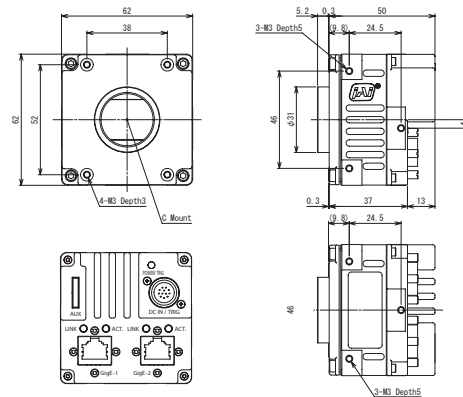
EL-2800M-GE2	Monochrome camera with GigE Vision (LAG)
EL-2800C-GE2	Color camera with GigE Vision (LAG)

Note: add -CX to model number for adjustable C-mount

\*Traditional SNR is based on random noise in a single frame, where EMVA SNR measurements consider more comprehensive noise sources and variance over time. For a more complete description, see the manual.

†Reduced performance may occur when operating outside the standard range of -10°C to +50°C

## Dimensions



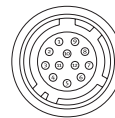
EL-2800M/C-GE\_LAG

## Color Interpolation (in-camera)

YUV 411	Dual-channel (LAG) 54.6 fps or single-channel @ 27.7 fps
YUV 422	Dual-channel (LAG) 41.6 fps or single-channel @ 20.8 fps
YUV 444	Dual-channel (LAG) 27.7 fps or single-channel @ 13.9 fps
RGB 24-bit	Dual-channel (LAG) 27.7 fps or single-channel @ 13.9 fps

## Connector pin-out

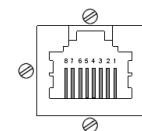
### DC In / Trigger



HIROSE HR10A-10R-12PB-01 Connector pin-out

Pin	Signal
1	GND
2	+12V to +24V DC input
3	Opto In 2-
4	Opto In 2+
5	Opto In 1-
6	Opto In 1+
7	Opto Out 1-
8	Opto Out 1+
9	Opto Out 2-
10	Opto Out 2+
11	+12V to +24V DC input
12	GND

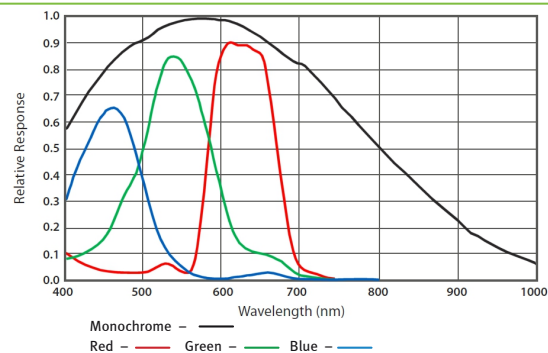
### GigE Vision Interface



RJ-45 (2) 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)

## Spectral Response



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Europe, Middle East & Africa  
Phone +45 4457 8888  
Fax +45 4491 3252

Asia Pacific  
Phone +81 45 440 0154  
Fax +81 45 440 0166

Americas  
Phone (Toll-Free) 1 800 445 5444  
Phone +1 408 383 0300



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