

❖ **EL-2800-CXP**  
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 CoaxPress interface*
- *Accepts power via CoaxPress or separate 12-pin connector*
- *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-CXP

# Elite Series

Specifications	EL-2800-CXP
Sensor	2/3" progressive scan CCD (ICX674)
Pixel clock	54 MHz
Frame rate, full frame	54.7 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	21.160 kHz to 40.693 kHz depending on tap geometry
Read-out modes	Full 1920 (h) x 1440 (v) up to 54.7 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 8/10/12-bit raw Bayer or 24-bit RGB interpolated
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	TTL, Pulse Generators (4), Software, NAND out (2), CXP trigger packet
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

## Color Interpolation (in-camera)

RGB	24-bit at 15.8, 27.4, or 54.7 fps
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## Ordering Information

EL-2800M-CXP	Monochrome camera with CoaXPress
EL-2800C-CXP	Color camera with CoaXPress

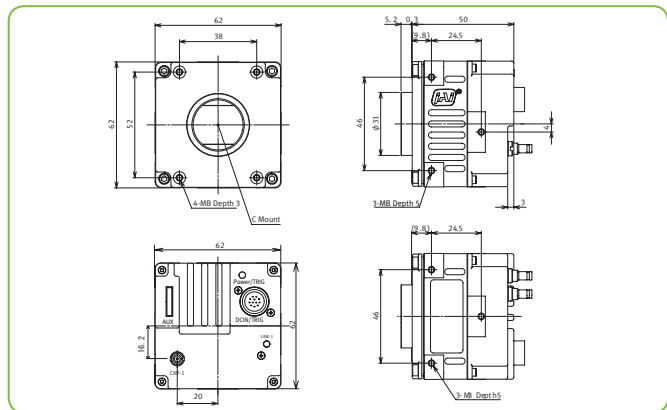
\*Traditional SNR is based on random noise in a single frame, where EMVA SNR measurements consider more comprehensive noise sources and variance over time. For a more complete description, see the manual.

†Reduced performance may occur when operating outside the standard range of -5°C to +45°C

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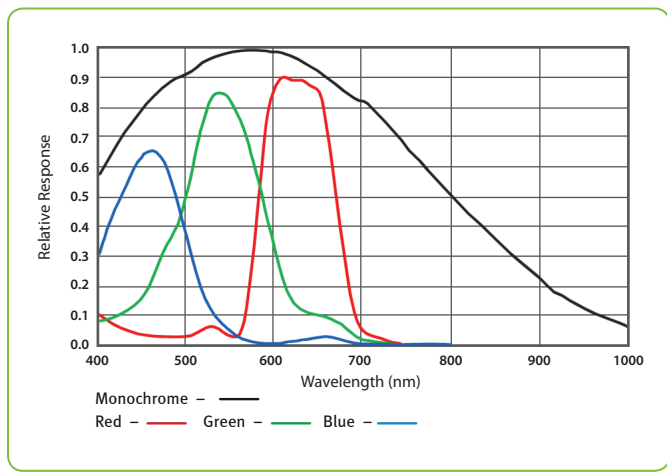
## Dimensions



## Connector pin-out

DC In / Trigger	CoaXPress Interface CXP-1																								
<p>HIROSE HR10A-10R-12PB-01</p> <p>Connector Pin-out</p> <table border="1"> <tr><td>Pin 1</td><td>GND</td></tr> <tr><td>Pin 2</td><td>+12V to +24V DC input</td></tr> <tr><td>Pin 3</td><td>GND</td></tr> <tr><td>Pin 4</td><td>NC</td></tr> <tr><td>Pin 5</td><td>Opto In-</td></tr> <tr><td>Pin 6</td><td>Opto In+</td></tr> <tr><td>Pin 7</td><td>Opto Out-</td></tr> <tr><td>Pin 8</td><td>Opto Out+</td></tr> <tr><td>Pin 9</td><td>TTL out 1</td></tr> <tr><td>Pin 10</td><td>TTL in 1</td></tr> <tr><td>Pin 11</td><td>+12V to +24V DC input</td></tr> <tr><td>Pin 12</td><td>GND</td></tr> </table>	Pin 1	GND	Pin 2	+12V to +24V DC input	Pin 3	GND	Pin 4	NC	Pin 5	Opto In-	Pin 6	Opto In+	Pin 7	Opto Out-	Pin 8	Opto Out+	Pin 9	TTL out 1	Pin 10	TTL in 1	Pin 11	+12V to +24V DC input	Pin 12	GND	<p>Single channel output Requires cable with 75Ω 1.0/2.3 DIN-type connector Supports 3.125 Gbps for monochrome and raw Bayer (CXP-3) Supports 6.25 Gbps for RGB output (CXP-6)</p>
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## Spectral Response



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See the possibilities