

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



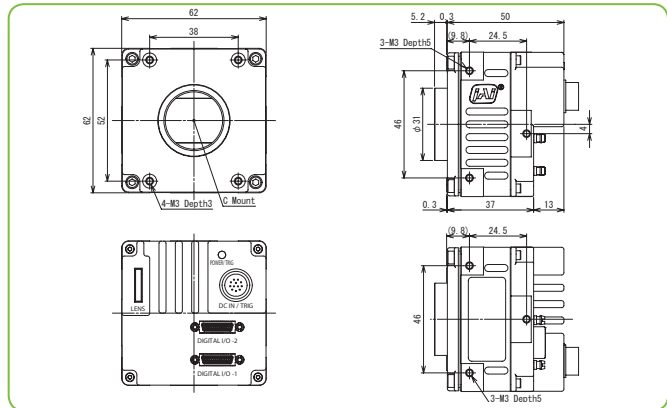
- *2/3" progressive scan CCD*
- *54.7 fps at full resolution*
- *4.54 μm square pixels with 4:3 aspect ratio*
- *Latest Sony ExView HAD CCD II pixel technology for increased sensitivity and NIR response*
- *Monochrome or color models with built-in color interpolation on color model*
- *Variable partial 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 two-channel Power over Mini Camera Link interface*
- *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-PMCL

Elite Series

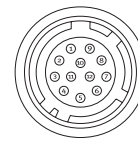
Specifications	EL-2800-PMCL
Sensor	2/3" progressive scan CCD (ICX674)
Pixel Clock	54 MHz
Frame rate, full frame	54.7 frames/sec.
Active area	8.72 mm (h) x 6.54 mm (v) 10.97 mm diag.
Cell size	4.54 μm (h) x 4.54 μm (v)
Active pixels	1920 (h) x 1440 (v)
Horizontal output frequency	40.693kHz (1X2-2YE, 1X2-1Y binning off)
Read-out modes	Full
Programmable partial scan	Start line from 0 to 1430, height from 8 to 1440 lines (1L steps mono, 2L steps color) 24.574 μs per line
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 >58.5 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	Monochrome Manual/automatic -3 dB to +24 dB Color Manual/automatic 0 dB to +24 dB
White balance (EL-2800C)	Manual, one-push auto, or continuous (3000K to 9000K)
Gamma	0.45-1.0 (16 steps) or 256-point LUT
Synchronization	Internal
Trigger input	GPIO selectable - SW, pulse gen, ext. HW (TTL/CL)
Trigger modes	EPS, PIV, Trigger Width, RCT (with ALC), Sequence Trigger
Electronic shutter	
Timed exposure	10 μs to 8 sec in 1 μs steps
Auto shutter	1/54 to 1/100,000 sec.
Auto level control (ALC)	Shutter range from 1/54 to 1/100,000, gain range from 0 dB to +24 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)
3-axis control	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	10G (20 Hz to 200 Hz XYZ)
Shock	80 G
Regulations	CE (EN 61000-6-2, EN 61000-6-3), FCC part 15 class B, RoHS/WEEE
Power	12V to 24V DC ± 10%, 5.22W typical (full frame @ 12V)
Lens mount	C-mount
Dimensions (H x W x L)	C-mount 62 mm x 62 mm x 55.5 mm
Weight	215 g

Dimensions



Connector pin-out

DC In / Trigger

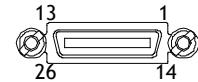


HIROSE HR10A-10R-12PB-01

Connector Pin-out

Pin	Signal
1	GND
2	+12V to +24V DC input
3	GND
4	Auto iris lens
5	NC
6	NC
7	NC
8	NC
9	TTL out 1
10	TTL in 1
11	+12V to +24V DC input
12	GND

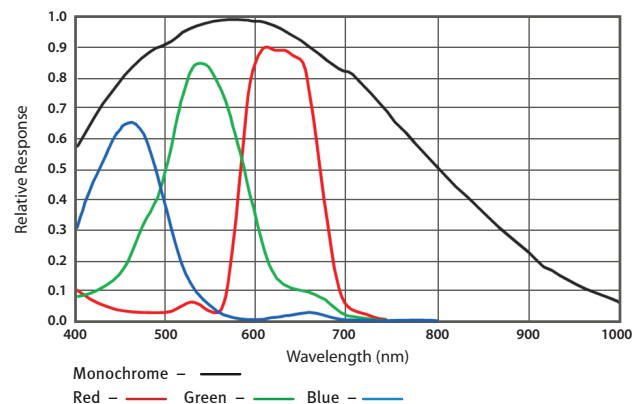
Mini-CL interface Interface 1



Pin	Signal	Function	
1	Power	+12V to +24V DC in	
13	GND	Power return	
14	GND	Power return	
26	Power	+12V to +24V DC in	
2	15	-/+ TxOUT 0	
3	16	-/+ TxOUT 1	
4	17	-/+ TxOUT 2	
5	18	-/+ TxOUT 3	
6	19	-/+ TxOUT 3	
7	20	+/- RXD	Serial in
8	21	-/+ TXD	Serial out
9	22	CC1-/CC1+	Ext. trigger
10	23	CC2+/CC2-	Not used
11	24	CC3-/CC3+	Not used
12	25	CC4+/CC4-	Not used

For Medium and Full implementations a second Mini-CL interface is provided. Video Channel 2 is on pin pairs (2,15), (3,16), (4,17), (5,18), and (6,19). Consult manual for specific bit depths and pin assignments.

Spectral Response



Color Interpolation (in-camera)

RGB | 15.8 fps (24-bit)

Ordering Information

EL-2800M-PMCL	Monochrome camera with Mini Camera Link
EL-2800C-PMCL	Color camera with Mini Camera Link

*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

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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