# Specifications for AT-140 CL

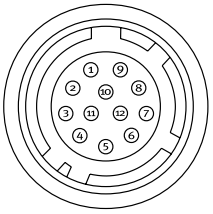
| Specifications | AT-140 CL |
|---|---|
| Sensor | 3 x 1/2" progressive scan CCD - ICX267AL |
| Pixel Clock | 50 MHz |
| Frame rate full frame | 25.21 frames/second (1040 lines per frame) |
| Active area | 6.4 (h) x 4.8 (v) mm |
| Cell size | 4.65 (h) x 4.65 (v) µm |
| Active pixels | 1392 (h) x 1040 (v) |
| Read-out modes | |
| Full | 1392 (h) x 1040 (v) 25.21 fps |
| 2/3 partial scan | 1392 (h) x 695 (v) 33.49 fps |
| 1/2 partial scan | 1392 (h) x 521 (v) 40.04 fps |
| 1/4 partial scan | 1392 (h) x 261 (v) 56.77 fps |
| 1/8 partial scan | 1392 (h) x 131 (v) 71.38 fps |
| Variable partial | Programmable start line & height, 1 to 1040L |
| Vertical binning | 1392 (h) x 520 (v) 40.98 fps |
| Sensitivity (on sensor) | 1.25 Lux, max gain, 50% video |
| S/N ratio | >50 dB. (Green ch., 0 dB gain) |
| Video output | 3 x 8 bit RGB: single port Camera Link base<br>3 x 10 bit RGB: dual port Camera Link medium<br>3 x 12 bit RGB: dual port Camera Link medium |
| Auto-iris lens video | 0.7 V p-p, 75 Ω NUM luminance signal w/o sync |
| Gain, manual | Manual for all 3 colors<br>Master -3 to +12 dB<br>R and B –6 to +6 dB |
| Synchronization | Int. X-tal |
| Inputs Camera Link | Ext. trigger, (LVDS) |
| TTL | Ext. trigger 4 Vpp ±2 V. (TTL or 75 Ω) |
| Outputs Camera Link | RGB 8/10/12 bit video output. Do – D9<br>Pixel clock, DVAL, LVAL, FVAL and EEN (LVDS) |
| TTL | XEEN output 4 Vpp from 75 Ω source (TTL) |
| Trigger modes | Continuous, Edge Pre-Select,<br>Pulse Width Control, Reset Continuous |
| Electronic shutter | |
| Pre-set shutter | 1/25 (off) to 1/53,000 sec. in 12 steps.<br>All or R, G, B individually |
| Programmable exposure | 1L – 1056L in 1L (37.56 µs) steps.<br>All or R, G, B individually |
| Pulse Width Control | 2L (75.12 µs) to 53243L (2 sec.) |
| White balance | Manual, one-push auto, continuous auto<br>Preset(4000K, 4600K, 5600K)<br>Note: 7800K is Factory default setting |
| Tracking range | -6 to +6 dB. (4000K to 9000K) |
| Gamma | 1.0 (OFF) , 0.6, 0.45 or LUT (Look Up Table) |
| Knee function | Knee point and knee slope<br>for R, G, and B channel |
| Linear Matrix | Manual for R,G and B /<br>Preset (sRGB, Adobe RGB) |
| Blemish Compensation | Up to 24 pixels |
| Functions controlled by Camera Link | Trigger, shutter, scanning, readout, polarity, gain, set-up, white balance, gamma, knee point and slope, linear matrix, blemish/ shading compensation |
| Operating Temperature | -5° C to +45° C |
| Humidity (operation) | 20% - 80% non-condensing |
| Storage temp./humidity | -5° C to +60° C / 20% - 80 % non-condensing |
| Vibration | 3G (15 Hz to 200 Hz XYZ) |
| Shock | 50 G |
| Regulations | CE (EN 61000-6-2, EN 61000-6-3),<br>FCC part 15 class B, RoHS |
| Power | 12V to 24V DC ± 10%. 6.1W typical<br>(full frame @ 12V) |
| Lens mount | C-mount (Max 4.0 mm thread) |
| Dimensions (H x W x L) | 55 mm x 55 mm x 78.3 mm |
| Weight | 290 g |

## Ordering Information

| | |
|---|---|
| AT-140CL | 1/2" 3CCD Progressive Scan RGB Color Camera |

## Connector pin-out

### DC In / Trigger



HIROSE HR10A-10R-12PB-01

| Pin | | |
|---|---|---|
| | 1 | Ground |
| | 2 | +12V DC |
| | 3 | Ground |
| | 4 | Iris video |
| | 5 | Ground |
| | 6 | — |
| | 7 | — |
| | 8 | Ground |
| | 9 | XEEN out |
| | 10 | Trigger in |
| | 11 | — |
| | 12 | Ground |

### Camera Link Interface

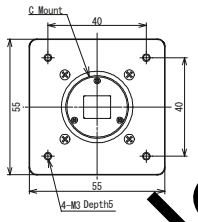
26 pin MDR connector 3M 10226-xxxxJL


| Pin | | Signal | Function |
|---|---|---|---|
| 1 | 14 | GND | |
| 2 | 15 | X0-/X0+ | CL Data out |
| 3 | 16 | X1-/X1+ | CL Data out |
| 4 | 17 | X2-/X2+ | CL Data out |
| 5 | 18 | Xclk-/Xclk+ | CL Clk |
| 6 | 19 | X3-/X3+ | CL Data out |
| 7 | 20 | SerTC+/SerTC- | Serial in* |
| 8 | 21 | SerTFG-/SerTFG+ | Serial out* |
| 9 | 22 | CC1-/CC1+ | Trigger* |
| 10 | 23 | CC2+/CC2- | Reserved |
| 11 | 24 | CC3-/CC3+ | Not used |
| 12 | 25 | CC4+/CC4- | Not used |
| 13 | 26 | GND | |

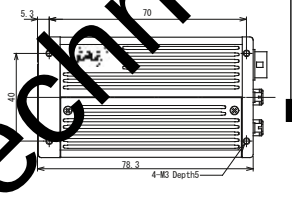
** Via Camera Link or 12-pin Hirose Information shown is for Port 1. For Port 2, which is used when providing 30-bit or 36-bit output via Camera Link medium configuration, pinout is similar, except pins 7-12 and 20-25 are not used.*

## Dimensions

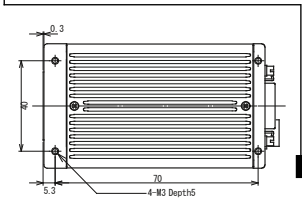
Front view



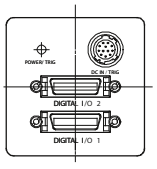

Side view



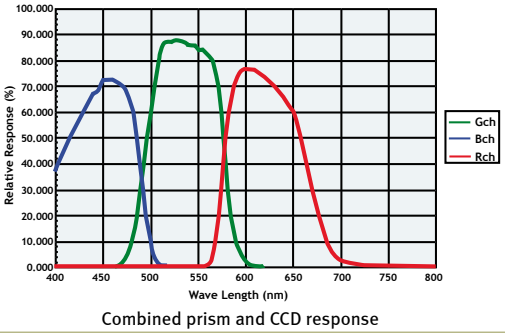

Bottom view




Rear view




## Spectral Response




Combined prism and CCD response





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