

❖ LQ-050 CL

4 CCD RGB/NIR Line Scan Camera



- 4 CCD line scan camera with Camera Link output
- Dichroic RGB/NIR beam splitter prism with 4 sensors
- 4 sensors with 512 pixels, 14 μm x 14 μm pixel size
- 7.168 mm effective image length
- Scan rate up to 70922 lines per second at 40 MHz pixel clock
- 4 x 8 bits or 4 x 10 bits output through Camera Link interface
- Three shutter operating modes including pulse width control mode
- Low-noise operation (S/N: 58 dB) providing superior image quality
- One-push automatic white balance
- Flat-field correction and color shading compensation
- Binning functions for increased sensor sensitivity
- Gamma correction using LUT table
- Set-up and installation aid with built-in test pattern generator
- Available with M52 mount or Nikon F-mount
- Short ASCII set-up commands via RS 232C or Camera Link
- Setup by Windows XP/Vista/Windows 7



Specifications for LQ-050 CL

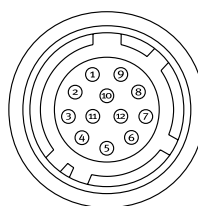
Specifications	LQ-050 CL
Scanning system	Line sensor with internal clock
Pixel clock	40.00 MHz
Scan rate	Max. 70922 lines/second (internal trigger) (512 pixels per line)
Sensor	4 line sensors mounted on RGB/NIR beam splitter prism
Sensor scanning width	7.168 mm
Cell size	14 (h) x 14 (v) μm
Active pixels	4 x 512 (h) 4 x 256 (h) with 2:1 binning
Sensitivity (sensor)	27 nJ/cm ²
Sensitivity (standard)	RGB: 2800 Lux (7800K white LED light) (Gain 0 dB, 600 μs line rate, 100% video on f2) NIR: 20 $\mu\text{W}/\text{cm}^2$ @ 800 nm
S/N ratio	58 dB on green with gain = -0 dB
Video output	4 x 8 bits or 4 x 10 bits in CL medium configuration
Gain Master mode:	G -3 dB to +12 dB R/B/NIR -6 dB to +6 dB
Individual mode:	R/G/B/NIR -9 dB to +18 dB
White balance	Manual, fixed or one-push Adjustable range 4000 K to 9000 K Fixed: 4000 K, 4600 K or 5600 K
Shading correction	Flat field: R/G/B/NIR individual Color: R/B/NIR match with G
Flat-field correction	Pixel uniformity (PRNU) and Dark signal (DSNU) correction on each channel
Synchronization	Internal X-tal or external trigger
Trigger modes	No-shutter, shutter-select and pulse width control
Line rate adjustment	Internal trigger 14.10 μs (1L) to 14.438 msec (1024L)
Programmable exposure	50 nsec. to 14.10 μs in 25 ns increments
Functions controlled by RS 232C or CL	Trigger modes, line rate, exposure time, gain/black level, shading correction, flat-field correction, white balance, diagnostics
Diagnostics	Test pattern generator (Color bar, gray pattern and white). LED for power
Lens mount	M52-mount (Standard) F-mount (Optional)
Sensor alignment	Better than ± 0.1 mm
Operating temp./humidity	-5°C to +45°C, 20 – 80% non-condensing
Storage temp./humidity	-25°C to +60°C, 20 – 80% non-condensing
Vibration	3G (20Hz to 200Hz, XYZ direction)
Shock	50G
Regulations	CE (EN61000-2 and EN61000-3) IEC61000-4-2 Conforming level 4 FCC Part 15 Class B RoHS
Power	12V DC -10% to 24V DC +10% 12W at +12V (saturated)
Dimensions	90 mm (W) x 90 mm (H) x 120 mm (D)
Weight	1050 g

JAI 4CCD/prism technology

The LQ-050CL is a 4 CCD line scan camera capable of simultaneous imaging of the Red, Blue, Green and NIR wavelengths through a single optical axis. The incoming light is split into 4 separate sensors using JAI's 4 CCD/prism-based technology with dichroic filters.

Connection Pin-out

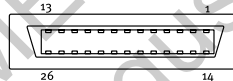
DC In / Trigger



HIROSE HR10A-10R-12PB-71

Pin	
1	Ground
2	+12V DC to +24V DC
3	Ground
4	Reserved
5	Ground
6	RXD RS 232C*
7	TXD RS 232C*
8	Ground
9	XEEN output
10	Trigger input (TTL)*
11	+12V DC to +24V DC
12	Ground

Camera Link Interface



Pin	Signal	Function
1	14 GND	
2	15 X0-/X0+	CL Data
3	16 X1-/X1+	CL Data
4	17 X2-/X2+	CL Data
5	18 Xclk-/Xclk+	CL Clk
6	19 X3-/X3+	CL Data
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	

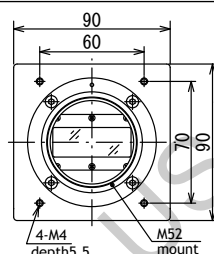
*) In Camera Link or 12 pin Hirose

Note:

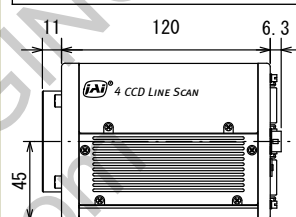
Camera Link base configuration shown.
For medium configuration refer to Camera Link specifications or operation manual.

Dimensions

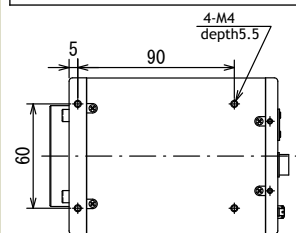
Front view



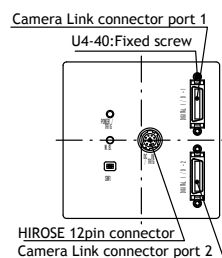
Side view



Bottom view



Rear view



Ordering Information

LQ-050 CL	4 CCD RGB/NIR Line Scan Camera. M52-mount (Standard)
LQ-050 CL	4 CCD RGB/NIR Line Scan Camera. F-mount (Optional)

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

Visit our web site on www.jai.com

See the possibilities

