

## ❖ LT-400 CL

3 CMOS RGB Line Scan Camera



- 3 CMOS line scan camera with Camera Link output
- Dichroic RGB beam splitter prism with 3 sensors
- 3 sensors with 4096 pixels, 7  $\mu\text{m}$  x 7  $\mu\text{m}$
- Low-noise operation (S/N: 55 dB) providing superior image quality
- 28.672 mm sensor scan width
- 3 x 8 bits or 3 x 10 bits output through Camera Link interface
- Line rate up to 16180 lines per second at 80 MHz pixel clock
- One-push auto white balance
- Flat field correction and color shading correction
- Knee and binning functions for extended dynamic range and sensitivity
- Sub-sampling and windowing readout
- Set-up and installation aid with built-in test generator
- Available with M52 mount (standard) or Nikon F-mount
- Short ASCII commands for set-up via RS 232C or Camera Link
- Setup by Windows XP software



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# Specifications for LT-400 CL

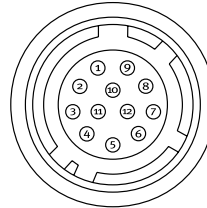
Specifications		LT-400 CL
Scanning system		Line sensor with internal clock
Pixel clock		80.00 MHz
Line rate	Standard Programmable	61.8µs (Full resolution/binning/internal trigger) 61.8µs~15.02ms, 12.5ns increments
Sensor		3 CMOS line sensors mounted on RGB beam splitter prism
Sensor scanning width		28.672 mm
Cell size		7 (h) x 7 (v) µm
Active pixels		3 x 4096 (h) 3 x 2048 (h) with 2:1 binning
Sensor sensitivity		Radiometric: 64V(µ)/cm <sup>2</sup>
Sensitivity on sensor		2800 Lux (7800K, gain=low, shutter=OFF, 100% video)
S/N ratio		55 dB on green with gain = 0 dB
Video output		24 bit (3 x 8) in CL base configuration 30 bit (3 x 10) in CL medium configuration
Gain	Master tracking	Master: 0 dB to +8 dB R/B: -4 dB to +14 dB Analog gain= Low (0dB) or High (+6dB)
	Individual mode	R/G/B: -4 dB to +14 dB Analog gain= Low (0dB) or High (+6dB)
White balance		Manual, fixed or one-push Adjustable range 4000 K to 9000 K Fixed: 4000 K, 4600 K or 5600 K
Knee function		Individual RGB knee point and slope
Shading correction		Individual RGB flat or RB to G
Flat-field correction		Two point pixel-to-pixel correction
Synchronization		Internal X-tal or external trigger
Trigger modes		No-shutter, shutter-select and pulse width control
Programmable exposure		60µs to 14.9 msec. in 12.5 ns increments
Functions controlled by RS 232C or CL		Trigger modes, scan rate, exposure time, gain/black level, shading correction, flat-field correction, white balance, knee-function, diagnostics
Diagnostics		Test pattern generator. (Color bar, gray pattern and white) LED for power
Lens mount		M-52 mount. (Standard) Nikon F-mount. (Factory option)
Sensor alignment		Better than ±0.1 pixel
Operating temperature		-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		Emission: CE CISPR Pub. 22 (EN55022) Immunity: CISPR Pub. 24 IEC61000-4-2 Conforming level 4 FCC Part15 Class B RoHS
Power		12V DC to 24V DC ± 10%.
Dimensions (H x W x D)		90 mm x 90 mm x 90 mm (without connector and lens mount protrusion)
Weight		830 g

## Ordering Information

LT-400 CL-M52	3 CMOS RGB Line Scan Camera. P-mount (M52)
LT-400 CL-F	3 CMOS RGB Line Scan Camera. F-mount

## Connection Pin-out

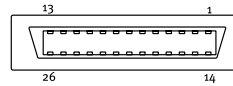
### DC In / Trigger



HIROSE HR10A-10R-12PB-71

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

### Camera Link Interface

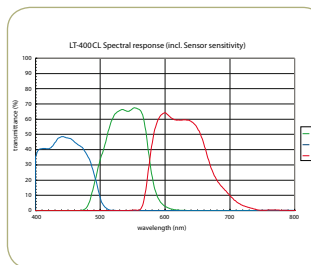


Pin	Signal	Function	
1	14	GND	
2	15	X0-/X0+	CL Data
3	16	X1-/X1+	CL Data
4	17	X2-/X2+	CL Data
5	18	Xclk-/Xclk+	CL Clk
6	19	X3-/X3+	CL Data
7	20	SerTC+/SerTC-	Serial in *
8	21	SerTFG-/SerTFG+	Serial out *
9	22	CC1-/CC1+	Trigger *
10	23	CC2-/CC2+	Reserved
11	24	CC3-/CC3+	Not used
12	25	CC4-/CC4+	Not used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

\*) In Camera Link or 12 pin Hirose

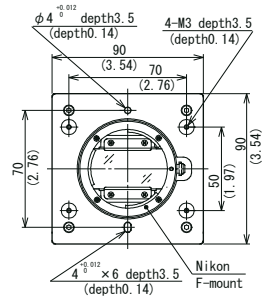
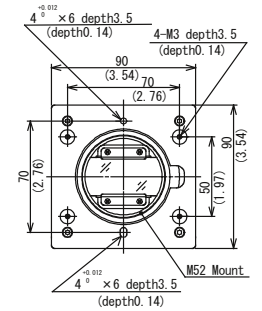
**Note:**  
Camera Link base configuration shown.  
For medium configuration refer to Camera Link specifications or operation manual.

## Spectral Response

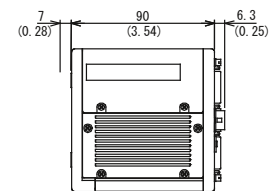


## Dimensions

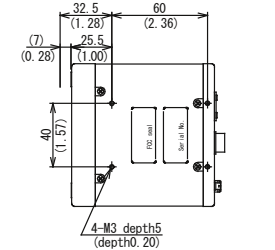
### Front view



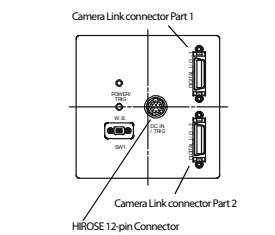
### Side view



### Bottom view



### Rear view



See the possibilities