

2098 × 3 Line Pixels, 25MHz Data Rate

DIGITAL COLOR LINE SCAN CAMERA TLC-2098CLD



(Lens: optional)

Applications

- Data input device for image processor such as visual inspection system.
- Data input device for color tone appearance inspection system.
- Data input device for sheet surface inspection system.
- Data input device for high definition pattern inspection system.
- Data input device for image processor connected to computer.

Specifications

Image sensor	2098 pixels 3 lines color CCD
Effective pixels	2098 × 3 (RGB)
Unit cell size	14 μm × 14 μm
Distance between R,G,B lines	112 μm (Effective 8 lines)
Image size	29.37 mm (H) × 0.24 mm (V)
Data rate	25MHz
Scan rate	11KHz (MAX)
Line transfer pulse input	90 μsec (MIN) 100Ω terminating
Video output	8bit : Base Configuration 10bit : Medium Configuration
Sensitivity (device)	15, 21, 37 V/μJ/cm ² (λ = 460, 540, 650 nm)
Charge conversion factor (device)	11.5 mV/electron
Charge transfer efficiency (device)	0.99999/1 transfer
Saturated charge capacity (device)	170,000 electrons
Dynamic range (device)	76 dB
Power supply	DC + 12V ± 0.5V (typ. 290mA)
Communication	RS232C (Via Camera Link Connector)
Operational ambient temperature	0 ~ 40°C
Operational humidity range	85% Max.
Storage temperature range	-10°C ~ +65°C
Lens mount	F Mount

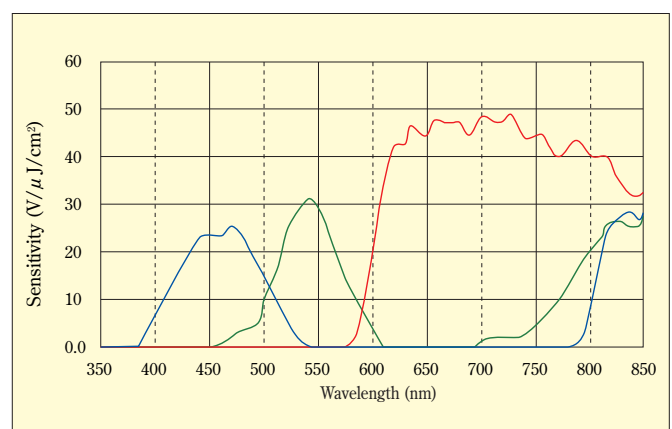
Outline

- TLC-2098CLD is the Industrial Digital Color Line Scan Camera that uses a CCD linear image sensor. RGB lines are integrated in one package and 2098 photodiodes are linearly arranged for each line.
- The photodiodes are scanned at a rate of 25MHz (40nsec) each and scanned data are output as video signals. The scanning time per line is 90 μsec.
- Video signal is output complying with Camera Link Std. (Base Configuration at 8bit output, Medium Configuration at 10bit output).
- GAIN and OFFSET characteristic, 8/10 bits format and the characteristic variation between even and odd number pixels can be easily adjusted via serial communication.

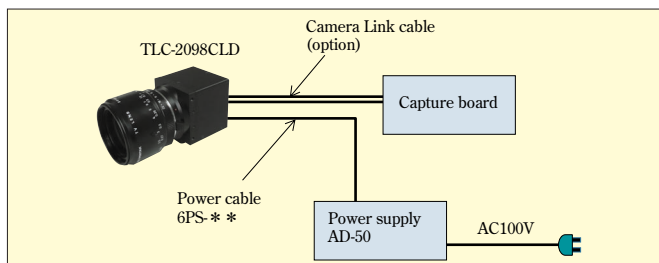
Features

- The equipment operates with a single DC12V power source.
- The high S/N ratio image is easily obtained as the pixel size is very large (14 μm × 14 μm).
- Dark current correction circuit helps to obtain stable images even when the ambient temperature changes.
- Equipped with color gap correction function.
- Despite a periodic fluctuation of input pulse of the external encoder, stable images can be obtained thanks to exposure control function. (at the scan rate of 11kHz or less).
- Equipped with shading correction function.

Spectral Sensitivity



Configuration Diagram



● **Suitable Power Supply**
AD50 Power Supply is suitable for this Line Scanner.

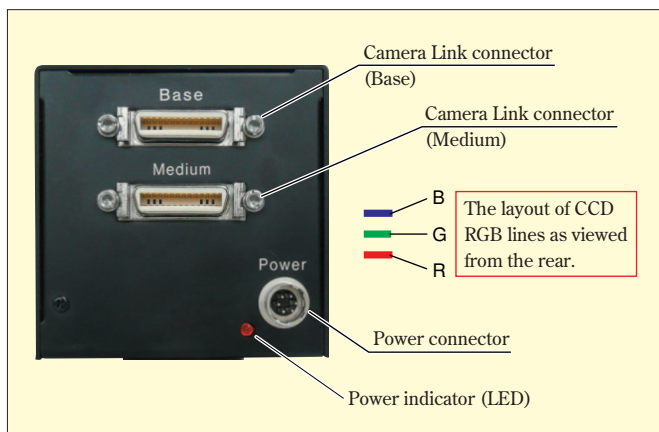
● **Suitable Cable**
Power cable 6PS-***

*** represents the cable length (m).

Camera Link cable (Separately sold)

Normal cable	Flex resistance cable
14B26-SZLB-200-OLC (2M)	14B26-SZLB-200-04C (2m)
14B26-SZLB-300-OLC (3M)	14B26-SZLB-300-04C (3m)
14B26-SZLB-500-OLC (5M)	14B26-SZLB-500-04C (5m)
14B26-SZLB-A00-OLC (10m)	14B26-SZLB-A00-04C (10m)

Description of Camera Rear Panel



Connector Description

● Power connector (HR 10A-7R-6S)

Pin No.	Signal name	Pin No.	Signal name
1	+12V	4	GND
2	+12V	5	GND
3	+12V	6	GND

※1 : Pin 1-2-3 (4-5-6) are jointly connected on the inside

● Camera Link connector (3M / MDR-26 FEMALE)

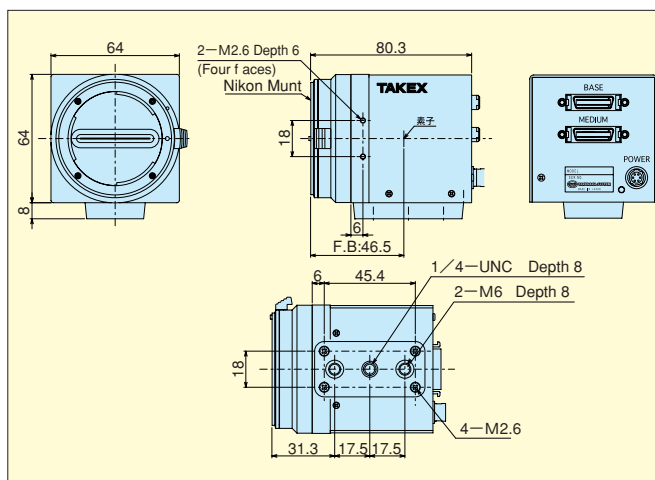
(Base)

Pin No.	Signal name	Pin No.	Signal name
1	GND	14	GND
2	X0-	15	X0+
3	X1-	16	X1+
4	X2-	17	X2+
5	Xclk-	18	Xclk+
6	X3-	19	X3+
7	SerTC+	20	SerTC-
8	SerTFG-	21	SerTFG+
9	CC1- (Ext Sync)	22	CC1+ (Ext Sync)
10	CC2+	23	CC2-
11	CC3-	24	CC3+
12	CC4+	25	CC4-
13	GND	26	GND

(Medium)

Pin No.	Signal name	Pin No.	Signal name
1	GND	14	GND
2	Y0-	15	Y0+
3	Y1-	16	Y1+
4	Y2-	17	Y2+
5	Yclk-	18	Yclk+
6	Y3-	19	Y3+
7	100Ω terminating	20	100Ω terminating
8	Z0-	21	Z0+
9	Z1-	22	Z1+
10	Z2-	23	Z2+
11	Zclk-	24	Zclk+
12	Z3-	25	Z3+
13	GND	26	GND

Dimensional Outline Drawing



● Note that specifications are subject to change without notice for improvement.

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