

TIGER

INTELLIGENT CAMERA SERIES

T8040 CCD 43 MP Camera Link®



Imperx: T8040

The Tiger T8040 CCD camera is an advanced, compact, and durable interline CCD camera providing 8080 x 5400 resolution and frame rates up to 3.8 fps. This 43 MP camera uses the ON Semiconductor KAI-43140 image sensor with 4.5-micron pixels in a 36 mm x 24 mm image area for use with Standard 35 mm optics. The camera provides programmable image resolution, frame rates, gain, offset, external triggering, strobe outputs, temperature monitoring, and user programmable and loadable LUTs. The camera's low-noise, excellent uniformity, and low dark current produce image quality prized in Flat Panel inspection, metrology, and surveillance applications. Optional forced air cooling is available.

Specifications

Feature	Description	Feature	Description
Output Interface	Camera Link® Medium, Base (Optional for 40 MHz)	Data Correction	Bad pixel correction, four 12-bit LUTs, 2 FFC, Black level, Vertical smear
Resolution	8040 (H) x 5360 (V), 8080 (H) x 5400 (V) max	Minimum Illuminations	1 Lux, F/ 1.4
Sensor	ON Semiconductor KAI-43140 Color/Mono/ Sparse CFA	Lens Mount	F-Mount (Default), M42, EOS Canon
Sensor Format	CCD, 43.3 mm	Supply Voltage Range	12 VDC (6 V – 30 V), 2.5 A inrush
Pixel Size	4.5 microns square	Power Consumption (Ruggedized)	9.0 W (58 MHz); 7.68 W (40 MHz)
Pixel Clock Rate	58 MHz (Default), 40 MHz (Optional)	Power Consumption (Industrial)	9.6 W (58 MHz); 8.28 W (40 MHz)
Frame Rate	3.8 fps (58 MHz), 2.7 fps (40 MHz)	Size - Width/Height/Length	69.5 mm (W) x 69.5 mm (H) x 51.5 mm (L) (Ruggedized, no fan) 69.5 mm (W) x 76.3 mm (H) x 51.5 mm (L) (Industrial, with fan)
Dynamic Range	> 60 dB	Weight	450g
Output Bit Depth	8-bit, 10-bit, 12-bit	Vibration, Shock (Ruggedized)	100G (20-200 Hz) XYZ/ 1000G
Noise	Read Noise: < 13 electrons	Vibration, Shock (Industrial)	20G (20-200 Hz) XYZ / 200G
Analog Gain Control	Manual, Auto (Rug.): 0 – 30 dB (Ruggedized), 0 – 24 dB (Industrial)	Environmental (Ruggedized)	-40 °C to +85 °C Operating, -50 °C to +90 °C Storage
Black Level Control	Manual, 1024 steps, Auto	Environmental (Industrial)	-10 °C to +60 °C Operating, -50 °C to +90 °C Storage
Digital Gain	1x – 4x, 0.001x steps	Humidity	10% to 90% non-condensing
Digital Offset	-512 to +511, 1 step increments	MTBF	TBD
AEC/AGC	Yes (Ruggedized)	Regulatory	FCC Part 15 Class A, CE, RoHS
White Balance	Manual, Auto, Off		
Shutter Speed	1 µs/step, 1/100,000 to 1/2.7 s (nom)		
Exposure Control	Auto (Ruggedized), External, Internal		
Long Integration	Up to 16 seconds		
Regions of Interest (ROI)	2 ROIs (Ruggedized) or 1 ROI (Industrial). Any line to any line, any pixel to any pixel		
Binning H/V	1x, 2x, 4x (Independent for H & V)		
Trigger Inputs	External (TTL/OPTO via IN1/IN2), Pulse generator, Software, Computer		
Trigger Options	Edge, Pulse width, Trigger filter, Trigger delay, Debounce		
Trigger Modes	Standard, Double, Fast		
External Inputs/Outputs	2 IN (OPTO, LVTTTL) / 2 OUT (OPTO, TTL)		
Strobe Output	2 strobes (Ruggedized) or 1 strobe (Industrial). Programmable position and duration		
Pulse Generator	Yes, programmable		

Imperx: T8040 Applications

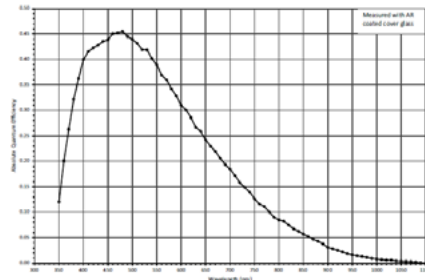
The T8040 incorporates a number of unique features tailored to reduce system complexity, maximize interface bandwidth, and expand the usable operational range.

Aerospace • Satellites • Surveillance • Military and Non-Military Ground Vehicles • Ball Grid Array • Printed Circuit Board Inspection • Telepresence • Machine Vision • Reconnaissance • Intelligent Traffic Systems • Aerial Imaging • Open Road Tolling Systems • Situational Awareness • Scientific • Particle Velocimetry

Absolute Quantum Efficiency

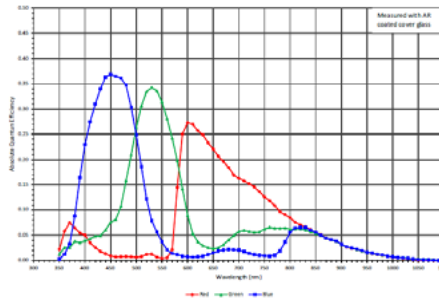
Monochrome with Microlens

KAI-43140

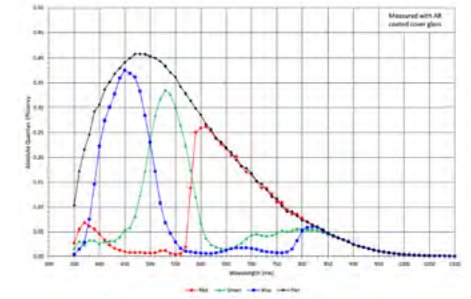


Color (Bayer RGB) with Microlens

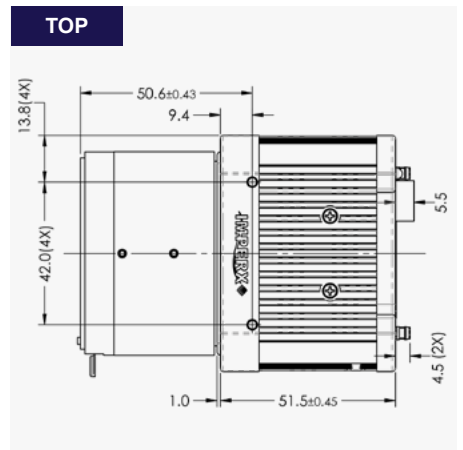
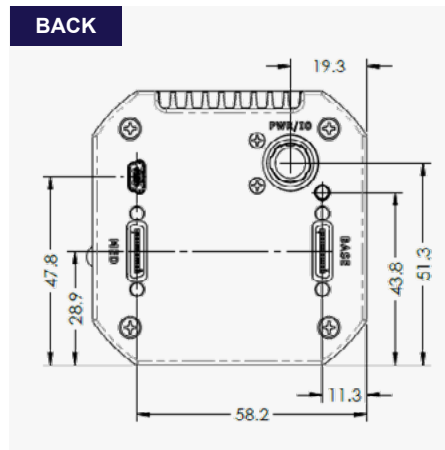
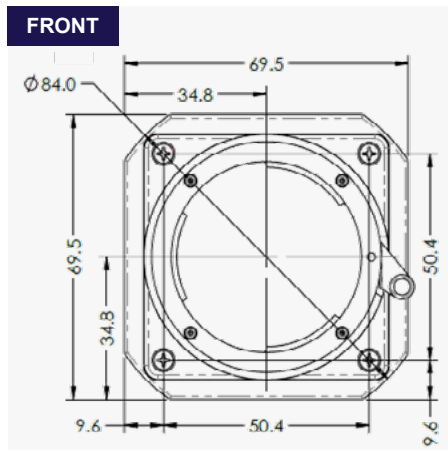
KAI-43140



Color (TRUESENSE Sparse CFA) with Microlens KAI-43140



Dimensions

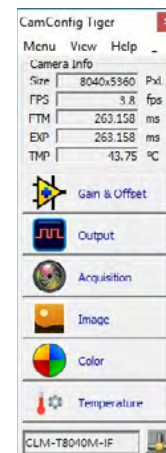


Ordering Information

Output Interface	
Camera Link® Medium (CLM)	
Sensor Types available	
Monochrome	Sparse CFA
Bayer Color	
Clock Option	
58 MHz (Default)	40 MHz (Optional)

Lens Mounts	
F-Mount (default)	EF Canon
M42	
Ordering	
Ruggedized	Industrial
Accessories (Sold separately)	
PS12V04A-Power Supply w/ 1 input and 1 output	

Camera Link GUI



Hirose Connectors

Power and I/O Interface



Connector: Hirose HR 10A-10R-12PB(71)

Rev: cl_t8040_r3_2019

Quality Management System ISO 9001:2015 Registered
 Environmental Management System ISO 14001:2015 Registered
 DDTC Registered (Directorate of Defense Trade Controls, US Department of State)



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