

TIGER

INTELLIGENT CAMERA SERIES

T9040 CCD 50 MP Camera Link®



Imperx: T9040

The Tiger T9040 CCD camera is an advanced, compact, and durable interline CCD camera providing 10440 x 4800 resolution and frame rates up to 3.5 fps. This 50 MP camera uses the ON Semiconductor KAI-50140 image sensor with 4.5-micron pixels in a 47.0 mm x 21.6 mm image area. 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 only) w/PoCL®	Data Correction	Bad pixel correction, four 12-bit LUTs, 2 FFC, Black level, Vertical smear
Resolution	10440 (H) x 4800 (V), 10480 (H) x 4840 (V) max	Minimum Illuminations	1 Lux, F/ 1.4
Sensor	ON Semiconductor KAI-50140	Lens Mount	M58
Sensor Format	CCD, 51.7 mm	Supply Voltage Range	12 V DC (6 V – 30 V), 2.5 A inrush
Pixel Size	4.5 microns square	Power Consumption (Ruggedized)	TBD (58 MHz); 8.16 W (40 MHz)
Pixel Clock Rate	58 MHz (Default), 40 MHz (Optional)	Power Consumption (Industrial)	TBD (58 MHz); 8.76 W (40 MHz)
Frame Rate	3.5 fps (58 MHz), 2.5 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	TBD
Output Bit Depth	8-bit, 10-bit, 12-bit	Vibration, Shock (Ruggedized)	100G (20-200Hz) XYZ/ 1000G
Noise	Read Noise: < 13 electrons	Vibration, Shock (Industrial)	20G (20-200Hz) 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 1/2.5 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: T9040 Applications

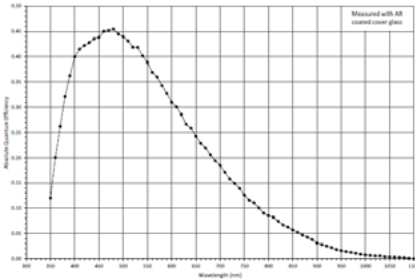
The T9040 incorporates a number of unique features tailored to reduce system complexity, maximize interface bandwidth, and expand the usable operational range.

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

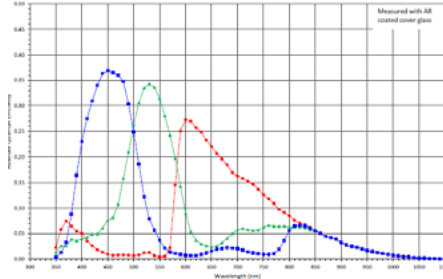
Monochrome with Microlens

KAI-50140

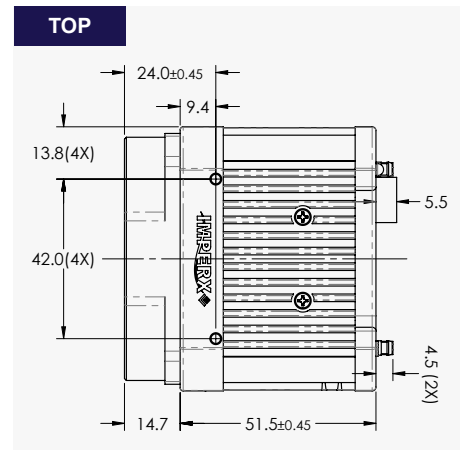
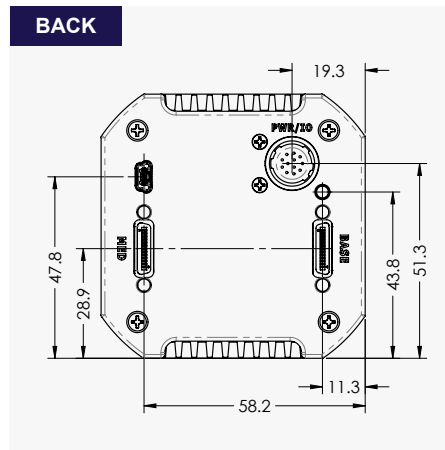
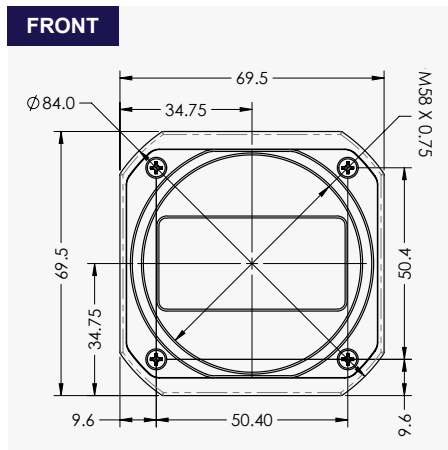


Color (Bayer RGB) with Microlens

KAI-50140



Dimensions

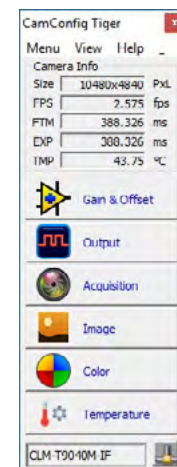


Ordering Information

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

Lens Mounts
M58
Ordering
Ruggedized Industrial
Accessories (Sold separately)
PS12V04A-Power Supply w/ 1 input and 1 output

Software/Drivers/Interface



Hirose Connectors

Power and I/O Interface
<ol style="list-style-type: none"> 12V DC Return +12 VDC Reserved Reserved OUT2 OPTO - OUT1 TTL Gnd OUT1 TTL Signal IN1 OPTO + IN2 TTL Signal IN1 OPTO - IN2 TTL Gnd OUT2 OPTO +

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

Rev: cl_t9040_r2_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)



IMPERX 6421 Congress Ave., Boca Raton, FL 33487, USA
 Tel: +1-561-989-0006. Email: sales@imperx.com

WWW.IMPERX.COM

Technical data has been fully checked, but accuracy of printed matter is not guaranteed. Subject to change without notice. Copyright 2019.