



### Key Features

- High speed: up to 100 kHz in TDI mode and 200 kHz in area mode
- Independent exposure control for each line (HDR)
- Permits longer Camera Link cables
- Compact camera body

### Programmability

- Multiple Regions of Interest for calibration and data reduction
- 8, 10 or 12 bit output
- Smart flat field and lens shading correction
- 8 programmable coefficient sets
- GenICam or ASCII compliant interfacing

### Typical Applications

- Automated optical inspection
- Transportation safety and security systems
- High performance sorting systems
- Materials grading and inspection systems
- Web inspection
- General purpose machine vision

### Regulatory Compliance

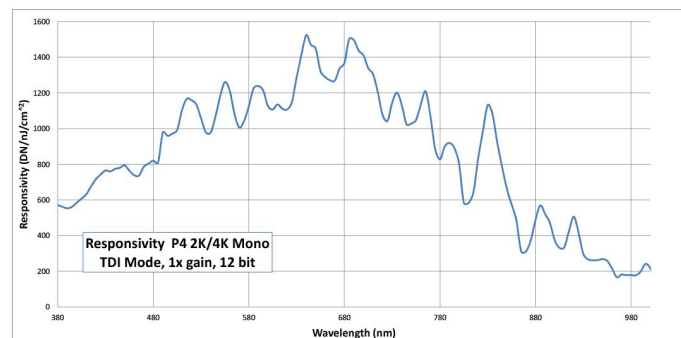
- CE, FCC and RoHS

## Fast 100 kHz in TDI mode and 200 kHz in area mode!

Teledyne DALSA expands its Piranha4 dual line CMOS camera family with 4K and 2K resolution models. The new Piranha4 models offer higher speeds and more responsive pixels in a choice of sizes and resolutions. Programmable features include multiple region-of-interest, high dynamic range operation, and rapid bi-directional switching, and are designed to meet today's demanding imaging applications.

### Specifications

Resolution	4096 x 2 and 2048 x 2 pixels
Line Rate	Up to 100 kHz in TDI mode (200 kHz in area mode)
Pixel Size	10.56 $\mu\text{m}$ x 10.56 $\mu\text{m}$
Data Format	8, 10 or 12 bit selectable
Output	Base, Medium, Full and Deca Camera Link
Lens Mount	M58 x 0.75 (4k) and M42 x 1 (2k) F-mount adapter available
Responsivity	1400 DN / (nJ / cm <sup>2</sup> ) in 12 bit at 1x gain
Dynamic Range	> 60 dB
Nominal Gain Range	1x to 10x
Size	62 mm x 62 mm x 48 mm
Mass	< 340 g
Operating Temp	0 °C to 65 °C (front plate)
Power	Hirose 6-pin male
Power Dissipation	< 11 W (4k) and < 8.3 W (2k)
Control & Data	SDR-26 mini Camera Link



### Piranha4 Dual Line Models

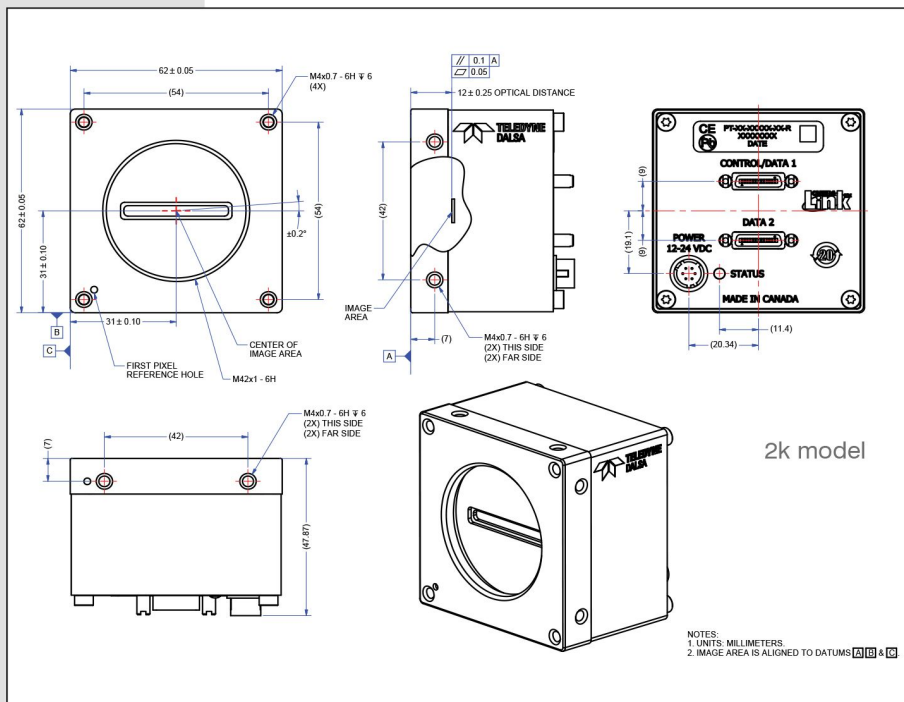
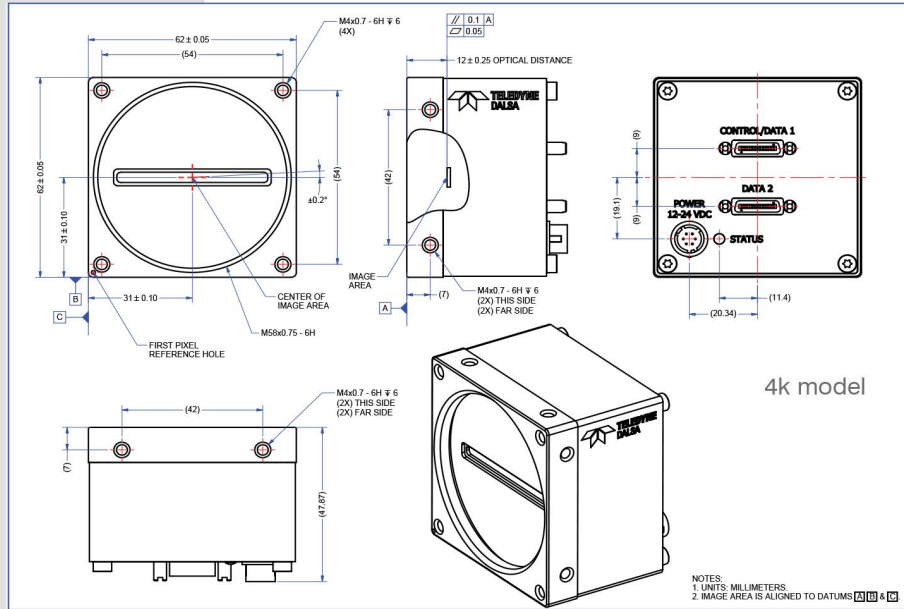
Part Number	Resolution	Maximum Line Rates <i>TDI mode (area mode)</i>	Pixel Size
P4-CM-04K10D-00-R	4096 x 2 pixels	100 kHz (200 kHz)	10.56 $\mu\text{m}$ x 10.56 $\mu\text{m}$
P4-CM-04K05D-00-R	4096 x 2 pixels	50 kHz (100 kHz)	10.56 $\mu\text{m}$ x 10.56 $\mu\text{m}$
P4-CM-02K10D-00-R	2048 x 2 pixels	100 kHz (200 kHz)	10.56 $\mu\text{m}$ x 10.56 $\mu\text{m}$
P4-CM-02K05D-00-R	2048 x 2 pixels	50 kHz (100 kHz)	10.56 $\mu\text{m}$ x 10.56 $\mu\text{m}$

# Piranha4 4K and 2K

## High Speed Dual Line CMOS Cameras



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