IMPERX™

4 MEGA-PIXEL 8/10/12 BIT, 15 FPS, THERMOELECTRIC COOLED, FIELD UPGRADEABLE, PROGRAMMABLE DIGITAL CAMERA WITH CAMERA LINK OR GigE OUTPUT

IPX-4M15T-L
IPX-4M15T-V

Features

- Single Stage Peltier Cooling
- Constant CCD temperature (optional)
- Optimized Thermal Equalization
- 2048 x 2048 pixels @ 15 fps
- Mono or Color, 8/10/12 bit data
- Base Camera Link or GigE output
- Single or Dual tap operation
- RS232 serial communication
- 32 bit RISC processor
- Horizontal and vertical binning
- Highly programmable:
  resolution • frame rate
  electronic shutter • long integration
  external trigger • pre-exposure
  fast triggering • double exposure
  strobe output • gain and offset
  area of interest • user LUT
- Dynamic Black Level Compensation
- Dynamic Transfer Function correction
- Temperature monitor
- Field upgradeable
- Flat Field Correction
- Defective Pixel Correction

Applications

- Flat Panel Display Inspection
- Machine Vision and Metrology
- Scientific Imaging
- Medical Imaging
- Microscopy

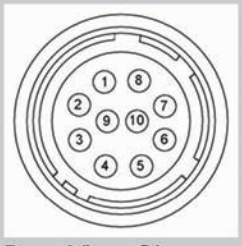
The **IPX-4M15T-L/V** is an advanced, high-resolution progressive scan, fully programmable and field upgradeable CCD camera, built around KODAK's KAI-4021 interline transfer CCD. The camera provides 2048 x 2048 resolution and delivers 15 frames per second at full resolution. The camera image processing engine is based on a 1 million gate FPGA and 32 bit RISC processor, featuring programmable resolution, AOI, binning, triggering, shutter, long integration, transfer function correction and user LUT. Support for DPC and FFC.

FAST...SMART...FLEXIBLE...
LYNX FAMILY

Specifications for IPX-4M15T-L/V

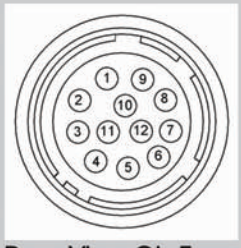
Active Image Pixels	2048 (H) x 2048 (V), Mono or Color
Active Image Area	15.15 mm x 15.15 mm
Pixel size	7.4 um
Video Output	Digital, 8/10/12 bit, one or two outputs
Camera Interface	Base Camera Link or GigE
Data Clock	40.000 MHz
Resolution	2048 x 2048 pixels max
Frame Rate	15 fps (dual) / 7.5 fps (single), up to 118 fps w/AOI
Shutter Speed	1/30000 sec to 1/7 sec
Long Integration	1/7 sec to 10 sec
Gamma Correction	G=1.0, G=0.45, User defined LUT
Black Level Offset	256 levels/output
Video Gain	6-40 dB, 1024 steps/output
External Trigger	Asynchronous
Hardware Trigger	External, level sensitive, 3.3V - 5.0V, 10 mA., Active HIGH/LOW, programmable exposure
Software Trigger	Internal (GigE) or CC1, exposure control
S/N Ratio	66 dB
Strobe Output	Active HIGH, for external light source
Lens Mount	F mount, 21.43 mm image diagonal
Environmental	Operating: -5 to 50 C, Storage: -10 to 65 C
Min. Illumination	1.0 Lux, f=1.4, no IR cut filter, no shutter
Mechanical	(100 x 100 x 100) mm; 1350 g (48 oz)
CCD Cooling	Single Stage Peltier Thermoelectric cooling
CCD Temperature	9 C below ambient - natural convection (default) 18 C below ambient - forced air (fan)

Power Connector



Rear View CL

1 Trigger IN –
2 Trigger IN +
3 -12 VDC
4 -12 VDC
5 +12 VDC
6 +12 VDC
7 Strobe OUT –
8 Strobe OUT +
9 Auto Iris +
10 Auto Iris -



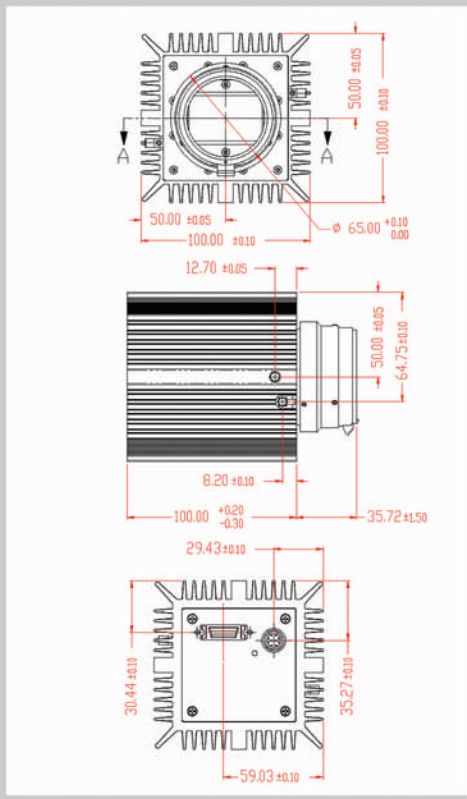
Rear View GigE

1 - 12V DC
2 +12V DC
3 Auto Iris 1
4 Auto Iris 2
5 Auto Iris GND
6 Strobe GND
7 Strobe OUT
8 Trigger IN
9 N/C
10 Trigger GND
11 N/C
12 N/C

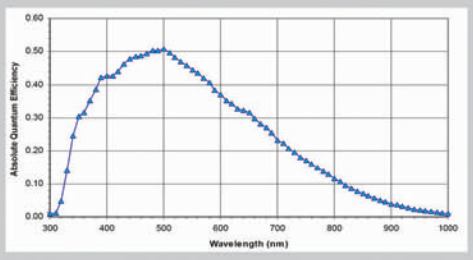
Power Requirements

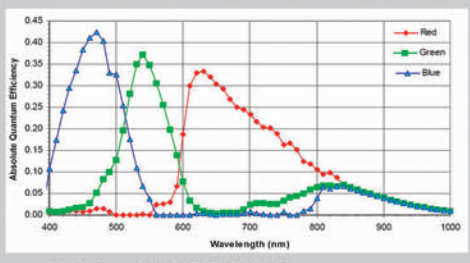
- 12V DC, (10V min, 15V max)
- LYNX: 0.8A, 9.6W
- GigE: 1.0A, 12.0W
  2.50A inrush

Mechanical Dimensions



Spectral Response

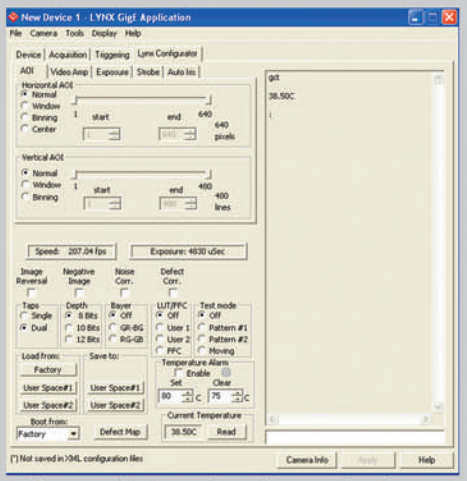




Ordering: **IPX-4M15T-LMFB**

Camera Family	*Options*
L – LYNX Camera Link **V** – LYNX GigE Vision	**blank** – none
Sensor Type	*Lens Mount*
M – Monochrome **C** – Color **U** – UV sensitive (no glass)	**F** – "F" mount (default) **C** – "C" mount

Configuration Utility



- CameraLink protocol compliant, or
- GigE Vision with Gen < I > Cam protocol compliant
- Camera configuration utility for CL
- Integrated software tools for GigE
  - data acquisition and display
  - camera control and communication
  - camera configuration utility

For specific details and ordering information, consult the camera user's manual or contact us at sales@imperx.com.

Rev. 1.0, 03/20/07

IMPERX™

Imperx Incorporated • 6421 Congress Avenue • Boca Raton, FL 33487 • USA
Phone: 1-561-989-0006 • 1-866-849-1662 • Fax: 1-561-989-0045
www.imperx.com • sales@imperx.com

Made in USA