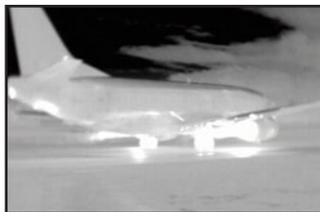# PV640

Uncooled Infrared Camera with VGA Resolution

PV640LW - Long-wave 8-14µm spectral response

- Long-wave IR (8-14µm) spectral response
- < 55mK detector thermal sensitivity
- 17µm pixel technology
- Wide variety of lens options
- GigE or Camera Link digital output
- Available with either 60 Hz and <9 Hz frame rate

Incorporating an advanced 640x480 microbolometer detector array, the PV640 Uncooled Infrared Camera delivers high resolution infrared images in a VGA format. Because it accepts a variety of infrared objective lenses and with either Gigabit Ethernet or Camera Link digital video output models, the camera is ideal for a wide variety of applications that benefit from its impressive resolution and thermal sensitivity. In addition, the PV640's short thermal time constant produces superior thermal image quality even while imaging fast moving objects.
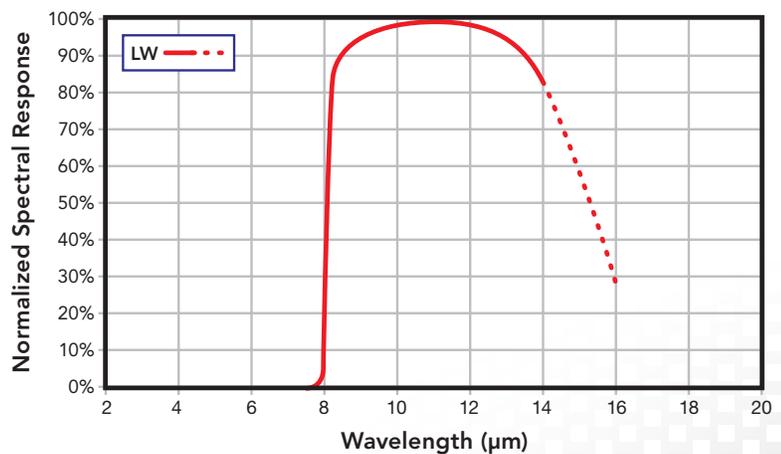
Because the PV640 uses an infrared detector array having a very short thermal time constant, thermal images have reduced blur due to object/camera motion. This makes them ideal for use in portable thermal imagers as well as imagers that are used on moving vehicles or that image objects in motion.

| Infrared Detector	Uncooled microbolometer
Array Size	640×480 pixels
Pixel Pitch	17µm detector
Spectral Range	8-14µm
Frame Rate	60Hz, optionally < 9Hz
Thermal Time Constant	< 10ms
Detector Sensitivity (f/1)	< 55mK
Additional Features	Non-uniformity correction, auto/manual gain, BPR, digital zoom, digital filtering, external synchronization (60Hz only)

Typical Spectral Response*

LW

Normalized Spectral Response

Wavelength (µm)

* Detector spectral response. Excludes lens transmission.

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Thermal Imaging Cameras

PV 640

PV640 IMAGER SPECIFICATIONS

Description	Camera Link	GigE
Operating Temperature Range	-40°C to 60°C	-20°C to 60°C
Non-operating Temperature Range	-45°C to 70°C	-25°C to 70°C
14-bit Streaming Digital Output	Camera Link	GigE
Serial Control Interface	Camera Link	GigE
Graphical User Interface	Included	Included
Size (lens not included)	2.4"× 2.7"× 2.7" (W×H×L)	2.4"× 2.7"× 3.7" (W×H×L)
Weight (lens not included)	< 0.4kg	< 0.5kg
Input Voltage	6-12 VDC	6-12 VDC
Power Consumption	< 2.2 W	< 3.6 W

PV640 ORDERING INFORMATION

Photo	Part Number	Description
13mm f/1.1 HFOV=45° Manual focus, Min. Obj. Dist. 500cm	915426	PV640LW Camera, 13mm F1.1 MF Lens, 60Hz, Camera link
	915427	PV640LW Camera, 13mm F1.1 MF Lens, 9Hz, Camera link
	915428	PV640LW Camera, 13mm F1.1 MF Lens, 60Hz, GigE
	915429	PV640LW Camera, 13mm F1.1 MF Lens, 9Hz, GigE
25mm f/1.2 HFOV=25° Fixed focus athermal, Min. Obj. Dist. 15cm	915430	PV640LW Camera, 25mm F1.2 FFA Lens, 60Hz, Camera link
	915431	PV640LW Camera, 25mm F1.2 FFA Lens, 9Hz, Camera link
	915432	PV640LW Camera, 25mm F1.2 FFA Lens, 60Hz, GigE
	915433	PV640LW Camera, 25mm F1.2 FFA Lens, 9Hz, GigE
50mm f/1.0 HFOV=12.5° Manual focus, Min. Obj. Dist. 65cm	915434	PV640LW Camera, 50mm F1.0 MF Lens, 60Hz, Camera link
	915435	PV640LW Camera, 50mm F1.0 MF Lens, 9Hz, Camera link
	915436	PV640LW Camera, 50mm F1.0 MF Lens, 60Hz, GigE
	915437	PV640LW Camera, 50mm F1.0 MF Lens, 9Hz, GigE
50mm f/1.2 HFOV=12.5° Fixed focus athermal, Min. Obj. Dist. 100cm	915438	PV640LW Camera, 50mm F1.2 FFA Lens, 60Hz, Camera link
	915439	PV640LW Camera, 50mm F1.2 FFA Lens, 9Hz, Camera link
	915440	PV640LW Camera, 50mm F1.2 FFA Lens, 60Hz, GigE
	915441	PV640LW Camera, 50mm F1.2 FFA Lens, 9Hz, GigE

D*STAR Uncooled

D*STAR Digital Storage and Retrieval Image Processing Software Suite for R&D Applications
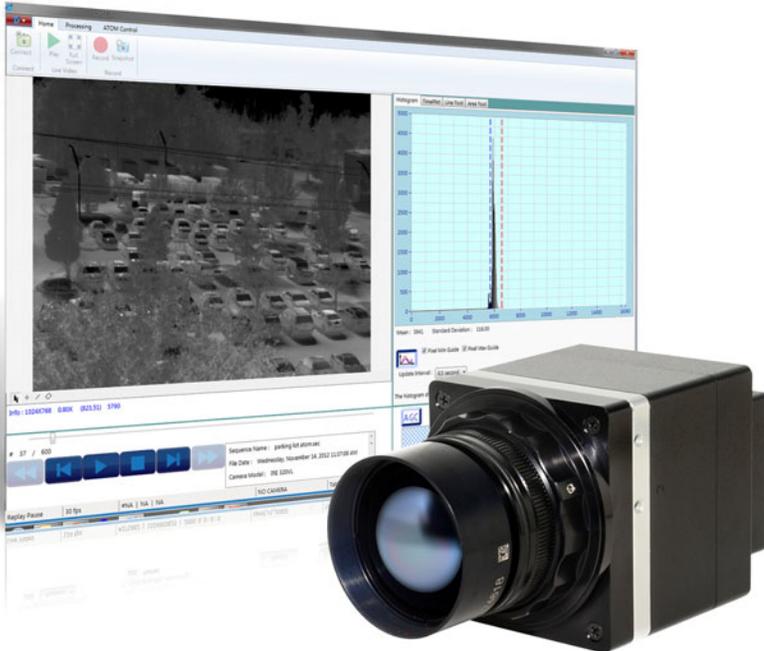
- **Real-time digital recording**
- **Powerful analysis tools**
- **Intuitive user interface**

D*STAR™ is a real-time image capture software package for the PV640. D*STAR features a highly intuitive user interface and a library of powerful tools that enable the sophisticated analysis of thermal behavior for a wide range of objects and materials.

- **Real-Time Digital Recording:** The PV640's digital output is displayed in real-time on your PC for live analysis or recording. Easily convert sequences to an AVI file suitable for Windows Media Player and frames to JPGs with the touch of a button.

- **Powerful Analysis Tools:** D*STAR features a large selection of real-time analysis tools including spot meter, line profile, region of interest analysis box.

- **Intuitive User Interface:** D*STAR features simple-to-understand controls that ensure you're up and running fast. Image recording and playback mimic standard DVD controls and camera control dialog boxes are easy to understand. Intuitive user controls allow simple image reduction, analysis, and archiving.

FEATURES

IMAGE MANAGEMENT
- Real-time recording and playback
- Single image capture and playback
- 14-bit image sequence conversion to AVI files
- Export of data to standard files

IMAGE PROCESSING
- Multiple color palette selections
- Image averaging (improves sensitivity)
- Span and level control
- Automatic Gain Correction

IMAGE ANALYSIS
- Spot meter
- Line Profile
- Region of Interest — User-defined rectangle
- Histogram Analysis (ROI)
- Time plot

DESKTOP SOFTWARE

Description	Part No.
D*STAR Uncooled Digital Storage and Retrieval Image Processing Software Suite for PV384, PV640 and ATOM 1024. To be used in infrared imaging R&D applications.	915447
Software Development Toolkit (SDK) for C++	915448
Software Development Toolkit (SDK) for LabView	915449

Technical characteristics described in this data sheet are for information only and are not contractual. Because of ongoing product enhancements, specifications are subject to change without notice. Export of these products from the United States is controlled by the US Government. Prior authorization is required for re-export or transfer.

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Groupe SOFRADIR

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Polytec

POLYTEC GmbH
Tel: +49 (72 43) 60 41 540   Fax: +49 (72 43) 6 99 44

Polytec-Platz 1 - 7   D -76337 Waldbronn   GERMANY
E-Mail: osm@polytec.de   www.polytec.de