

# IRXCAM-640 & 160

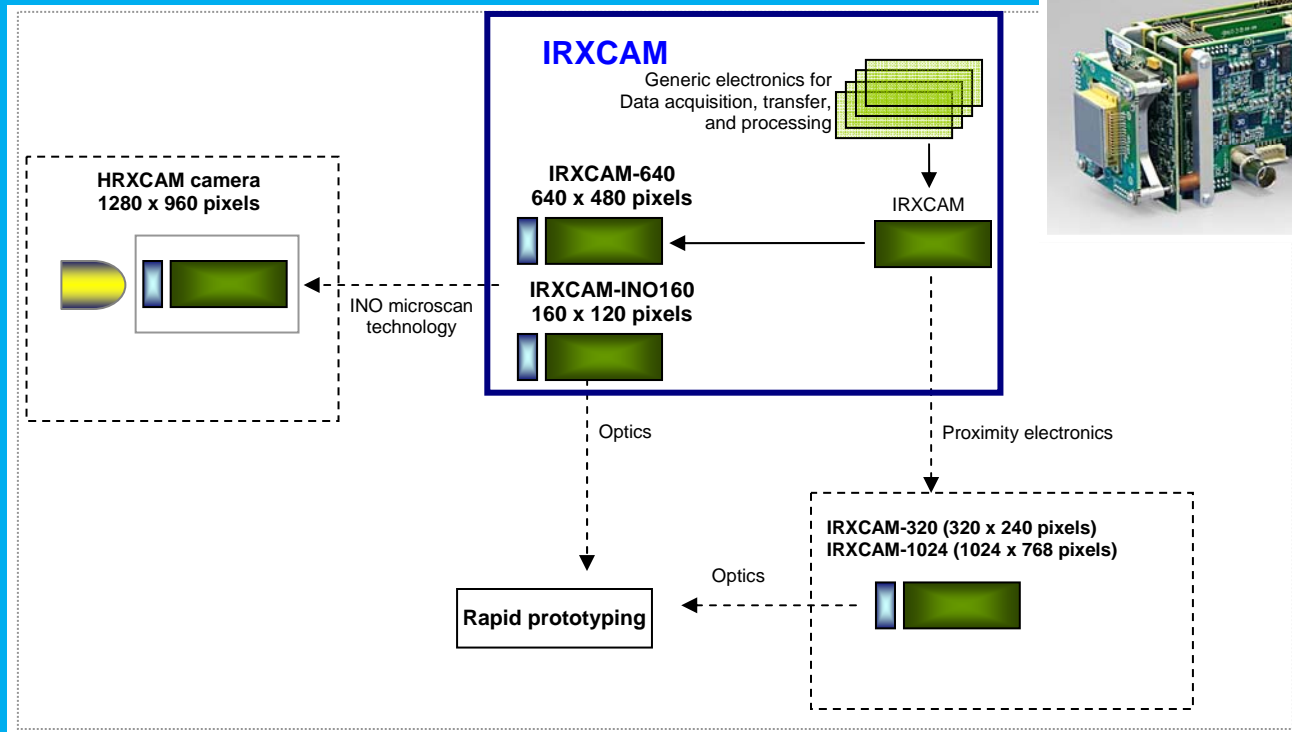
## CAMERA MODULE

The IRXCAM-640 camera core is a flexible module based on a 640 x 480 pixel uncooled FPA but which may be rapidly modified to accommodate other resolutions and sensor types such as 160 x 120 pixel, 320 x 240 pixel, and 1024 x 768 pixel FPAs. Providing 16-bit raw signal and 8-bit final image outputs at 60 Hz, the electronics gives total access to the detector configuration parameters.

The output is available in NTSC, PAL, and GigE. An additional VGA output can be used as input for a microdisplay. TECless operation minimizes power consumption. If required for absolute measurements, a TEC integrated with the detector package can be controlled. The camera core can be configured for outdoor operation from -30°C to 55°C with 200°C scene dynamic range at maximum sensitivity. The camera can also be coupled with a microscan mechanism to provide a high resolution 1280 x 960 pixel image (HRXCAM-1280).

INO is a world-class center of expertise in industrial applications for optics and photonics, and a leading technology developer and provider of bolometers and IR module technologies.

## GENERAL ARCHITECTURE



The module is composed of a set of electronic boards that handle raw data acquisition and processing, final data formatting, synchronization with an external source, and data transfer according to various standards. The module is equipped with three interfaces: a Gigabit Ethernet link for a computer, an NTSC/PAL link for a video monitor, and a VGA/SVGA link for a monitor or microdisplay. The FPA is mounted on proximity electronics that are adaptable to various FPAs.

# PRELIMINARY TECHNICAL SPECIFICATIONS

	IRXCAM-640	IRXCAM-INO160
SENSOR	<ul style="list-style-type: none"> <li>. 640 x 480 VGA</li> <li>. ULIS UL 04 17 1</li> <li>. LWIR uncooled microbolometer</li> </ul>	<ul style="list-style-type: none"> <li>. 160 x 120 uncooled</li> <li>. INO IRM160A</li> <li>. Microbolometer FPA</li> </ul>
VIDEO OUTPUT	<ol style="list-style-type: none"> <li>1. GigE Link               <ul style="list-style-type: none"> <li>. RJ-45 connector</li> <li>. Raw data image or corrected image</li> </ul> </li> <li>2. CVBS (NTSC/PAL)               <ul style="list-style-type: none"> <li>. BNC connector</li> <li>. Corrected image only</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>1. GigE Link               <ul style="list-style-type: none"> <li>. RJ-45 connector</li> <li>. Raw data image</li> </ul> </li> </ol>
CONTROL	<ul style="list-style-type: none"> <li>GigE Link               <ul style="list-style-type: none"> <li>. System operation control</li> <li>. Loading of parameters &amp; calibration tables</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>GigE Link               <ul style="list-style-type: none"> <li>. System operation control</li> <li>. Loading of parameters &amp; calibration tables</li> <li>. Random access</li> </ul> </li> </ul>
IN-SYSTEM PROCESSING	<ul style="list-style-type: none"> <li>. Shutter offset correction table (baseline)</li> <li>. Gain &amp; offset correction table</li> <li>. Contrast &amp; brightness user adjustment</li> <li>. Pixel replacement</li> <li>. Overlay video</li> <li>. Black hot/white hot</li> </ul>	
OPTIONS	<ul style="list-style-type: none"> <li>External trigger input (opto-isolated)</li> <li>TEC driver</li> <li>MicroShutter electronic driver</li> <li>Serial interface</li> <li>Thermistor interface (x2)</li> <li>Real time clock</li> </ul>	<ul style="list-style-type: none"> <li>Ext. trigger input (opto-isolated)</li> </ul>
POWER SUPPLY	9-12V DC	9-12V DC
POWER CONSUMPTION	<ul style="list-style-type: none"> <li>With GigE Link: ~ 7.8W</li> <li>Without GigE Link: ~ 6.8W</li> </ul>	<ul style="list-style-type: none"> <li>With GigE Link: TBD</li> <li>Without GigE Link: TBD</li> </ul>
DIMENSIONS	65 mm (H) x 59 mm (W) x 125 mm (L)	65 mm (H) x 59 mm (W) x 105 mm (L)
WEIGHT	250 g	~230 g
TEMPERATURE	<ul style="list-style-type: none"> <li>. Operating: -30 to 55 °C</li> <li>. Storage: -40 to 80 °C</li> </ul>	<ul style="list-style-type: none"> <li>. Operating : -30 to 55°C</li> <li>. Storage : -40 to 80°C</li> </ul>
EXTENSION	<ul style="list-style-type: none"> <li>. Interface for BDM-922K microdisplay</li> <li>. Interface for video output (VGA, DVI, etc.)</li> <li>. Interface for microscan electronic driver</li> <li>. Push buttons (x3)</li> <li>. Quadrature encoder (x1)</li> </ul>	<ul style="list-style-type: none"> <li>. Interface for microscan driver</li> <li>. Push buttons (x3)</li> <li>. Quadrature encoder (x1)</li> </ul>

\*Subject to change.

COMM-100126