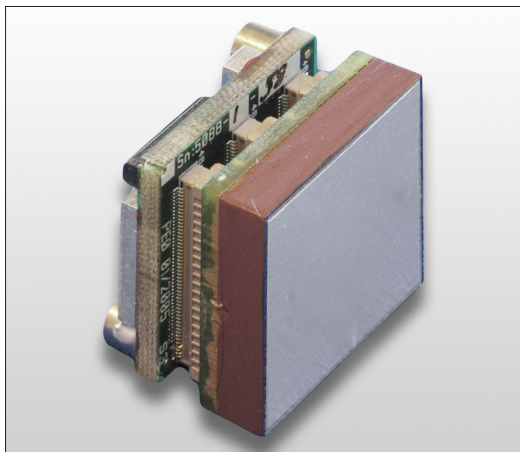


The IDEAS compact gamma ray camera makes use of room temperature cadmium-zinc-telluride semiconductors and feature up to 6400 spectroscopic channels or pixels. Each channel or pixel with amplification and trigger circuitry implemented in application specific integrated circuits. The camera connects using standard Ethernet interface. It is available in two different versions with maximum gamma ray energy of 350keV and 700keV respectively.

Specifications

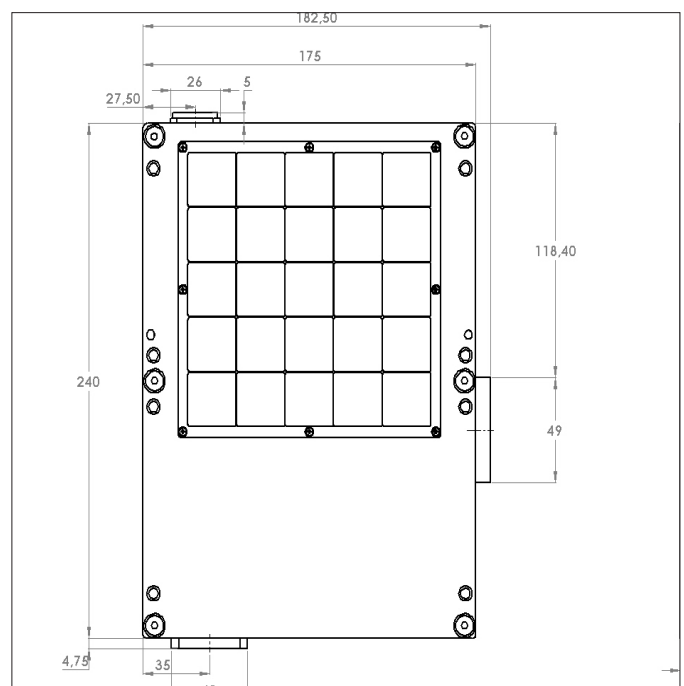
- Direct detection using Cadmium Zinc Telluride gamma ray detectors.
- Room temperature operation.
- Ethernet connectivity.
- User software for camera control, data acquisition and storage.
- Application Program Interface, (API) for user software development.
- Gamma ray energy measurement up to 350keV or 700keV.
- 5% FWHM energy resolution at 122keV.
- Modular design with up to 6400 pixels, each 1.6 x 1.6mm.
- Any pixel geometry in blocks of 16x16 is possible.
- 18W total power consumption for the 6400 pixel version. Less for partly populated cameras
- Expandable design, up to 4 cameras can be read out on a single Ethernet cable.
- Accepts various types of collimators.



Cadmium Zinc Telluride detector module used in the camera.

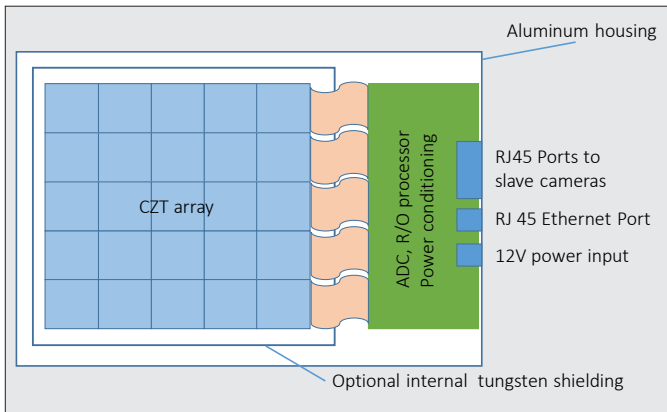


- Insensitive to magnetic fields.
- L x W x D: 175 x 240 x 78mm.
- Weight: 2kg
- M6 and 1/4" threaded holes on all sides for easy installation into the user's own equipment.
- optional 3mm tungsten shielding, may be retro-fitted.
- Optional thermoelectric cooler for extended ambient temperature range operation



Modularity

Due to the modular nature of the Cadmium Zinc Telluride crystals any geometry which is a multiple of 16x16 pixels can be realized.



Shown above is the standard configuration where an array of 5x5 crystals are connected to form an imaging array with a total of 6400 pixels. The array is connected to an ADC and Read-Out controller with ethernet connectivity to the host.

For applications that do not require the full 5x5 array the number of CZT crystals can be reduced and they can be arranged in any number and any pattern inside the 5x5 boundary. It is also possible to upgrade a camera later with more CZT modules as need arises.



(above) Connector panel

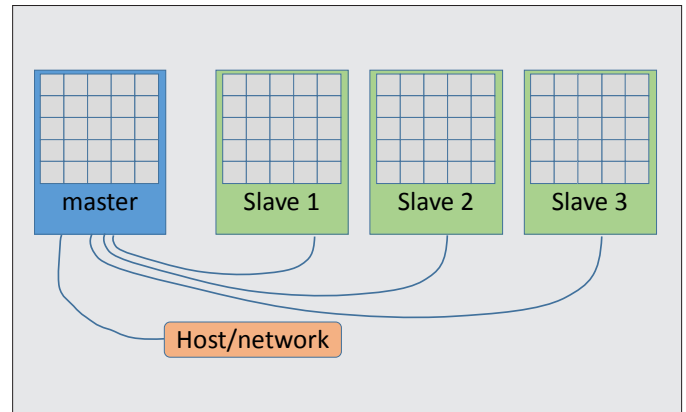
Contact:

For further information please navigate to:

<http://www.ideas.no/contact/>

Multiple camera configurations

A master camera can accept up to 3 additional slave cameras each with up to 25 modules constituting a total of 25600 pixels per system.



Energy spectroscopy

Typical energy spectra from 4 modules with a total of 1024 pixels measured with radiation from Co-57 at room temperature. The average energy spectrum is overlaid. The photo-peak at 122 keV has 5.4-keV full-width-half-maximum (FWHM) energy resolution.

