# Pearleye
# P-007 LWIR

GiGE
VISION

## Description

### LWIR camera, microbolometer sensor, 320 x 240 pixels

The Pearleye P-007 LWIR camera incorporates an uncooled microbolometer sensor with 320 x 240 pixels resolution. With its maintenance-free sensor, a temperature reference element, and a Peltier temperature stabilization, the camera reliably detects temperature differences <80 mK. Built-in image correction features ensure an excellent image quality.

- Amorphous silicon uncooled microbolometer focal plane array (FPA), 320 x 240 pixels, sensor time constant 7 ms
- 35 µm x 35 µm cell size, effective chip size 11.2 x 8.4 mm
- Spectral response: 8 - 14 µm (LWIR)
- NETD ≤ 80 mK@ 303 K @ f/1.0
- Temperature measurement range: -20°C to +80°C @ f/1.0
- Temperature reference element and Peltier temperature stabilizing
- Frame rate 40 fps (40 Hz)
- Built-in electromechanical calibration shutter
- Preprocessing functions included
- Including 18 mm lens, f/1.0 (field of view: 34.6° x 26.3°)
- Options
    ○ 12 mm lens, f/0.85
    ○ 35 mm lens, f/1.0
    ○ Other lenses on request

### Models:
Pearleye P-007 LWIR, temperature monitoring range -20°C to  +80°C
Pearleye P-007 LWIR High Temp, temperature monitoring range 0°C to +200°C

## Specifications

| Pearleye | P-007 LWIR |
|---|---|
| Interface | IEEE 802.3 1000baseT |
| Resolution | 320 x 240 |
| Spectral range | LWIR, 8 - 14 µm |
| Sensor | ULIS UL 03 08 1 |
| Sensor type | Microbolometer |
| Sensor size | No standard size |
| Cell size | 35 µm x 35 µm |
| Lens mount | M65 x 0.5 |
| Max frame rate at full resolution | 40 fps |
| Temperature measurement | -20 °C ... +80 °C, High Temp Version: 0 °C ... +200 °C |
| NETD | ≤ 80 mK@ 303 K @ f/1.0 |
| A/D | 14 bit |
| **Output** | |
| Bit depth | 12 bit |
| Mono modes | Mono12 |
| **Operating conditions/Dimensions** | |
| Operating temperature | 0°... +35 °C |
| Power requirements (DC) | 12 V |
| Power consumption (12 V) | 18 W |
| Mass | 830 g |
| Body Dimensions (L x W x H in mm) | 133.7 x 90 x 86 mm, incl. lens and connectors |
| Regulations | CE, RoHS (2002/95/EC) |

Download Technical drawing (click here)
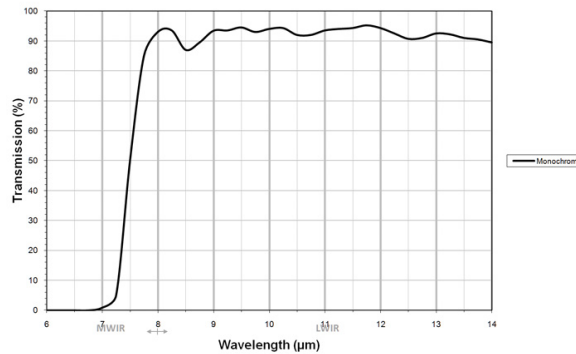
## Smart features

- Shipped with various built-in correction data sets
- Factory adjusted bad pixel correction
- Background (FPN) correction
- Gain/offset correction (NUC/non-uniformity correction) for each pixel
- Drift compensation
- Temperature linearization (LUT)
- Continuous mode (image acquisition with maximum frame rate)

In combination with AVT's AcquireControl software, extensive image analysis functions are available:

- Pseudo color LUT with several color profiles
- Auto contrast
- Auto brightness
- Temperature measurement
- Analyze multiple regions (rectangular, circle) within the image
- Real-time statistics and histogram display
- ... and more

## Applications

The Pearleye P-007 LWIR is a maintenance-free, robust, compact LWIR camera with excellent image quality and precise temperature measurement. It detects subtle temperature differences with high precision.

- OEM Applications
- Surveillance
- Automation
- Quality control
- Science and research