

Manual

Infrared cameras

Contour M



infrared viewers

Content

| | |
|----------------------------------|----|
| Content | 2 |
| Safety requirements | 3 |
| About | 4 |
| Operation | 5 |
| The Maintenance instruction..... | 7 |
| Spectral sensitivity | 7 |
| Power density | 8 |
| Technical information | 9 |
| Warranty | 11 |

Safety requirements

- The customer is responsible for light source safety while using a camera as a standalone device or integrated into system.
- The customer must consider protective measures if necessary.
- While assembling or operating camera, do not stare at the direct laser (or other source) light even with safety goggles.
- This device will not protect you from direct or high light radiation. Use camera with caution and appropriate attenuation
- Electrical safety requirements must be complied while operating this device.

About

The near infrared CONTOUR M camera has a built in 4 inch display. Camera is designed for observation, registration and recording radiation in near infrared zone emitted by infrared sources such as GaAs IR LED, diode or solid-state lasers as well as for use in infrared microscopy, infrared luminescence, examination of documents, forensics, art restoration and etc.

The CONTOUR M is ideal for the alignment of infrared beam and optical components in infrared systems in the 400-1700 nm spectral region. With Built-in 12V external charger and battery compartment ensures longer and comfortable operation of device.

The camera is based on a high-sensitive low-noise silicon CCD sensor and two-photon absorption phenomenon. Superior image quality is obtained with micro lens system and special coating layer on a silicon. The four-stage system of automatic control and superior anti-blooming feature allows operation in a much wider spectral range. The device can be used hand-held or with tripod.

Operation

CAUTION! Do not use direct laser radiation on a sensor.

CAUTION! Use the attenuators and beam splitters to decrease of laser radiation.

1. Power supply of the IR camera is carried out through stabilised AC/DC 110-240V/12V adaptor or 4XAA size rechargeable batteries.
2. Unscrew 4 screws (1) of the battery compartment (2). Install 4 rechargeable LR6 (AA) type batteries.
3. To switch the IR camera ON turn the rotary switch (3).
4. Rotate lens (4) to get observed object in focus.
5. Use buttons (5) to adjust picture brightness.
6. IR camera has limited sensitivity in 1100-1700nm spectral region. It is recommended to use cut-off IR filter and work in dark room (try to eliminate external illumination). Use a metallic surface for observation reflected radiation, as any other material might absorb infrared radiation
7. Connect the AC/DC adaptor through plug (9) to charge the batteries. The indicator (10) will start to blink when batteries are charged. Charging time is up to 4 hours.
8. Plug in video cable in to a socket (11) for video recording.

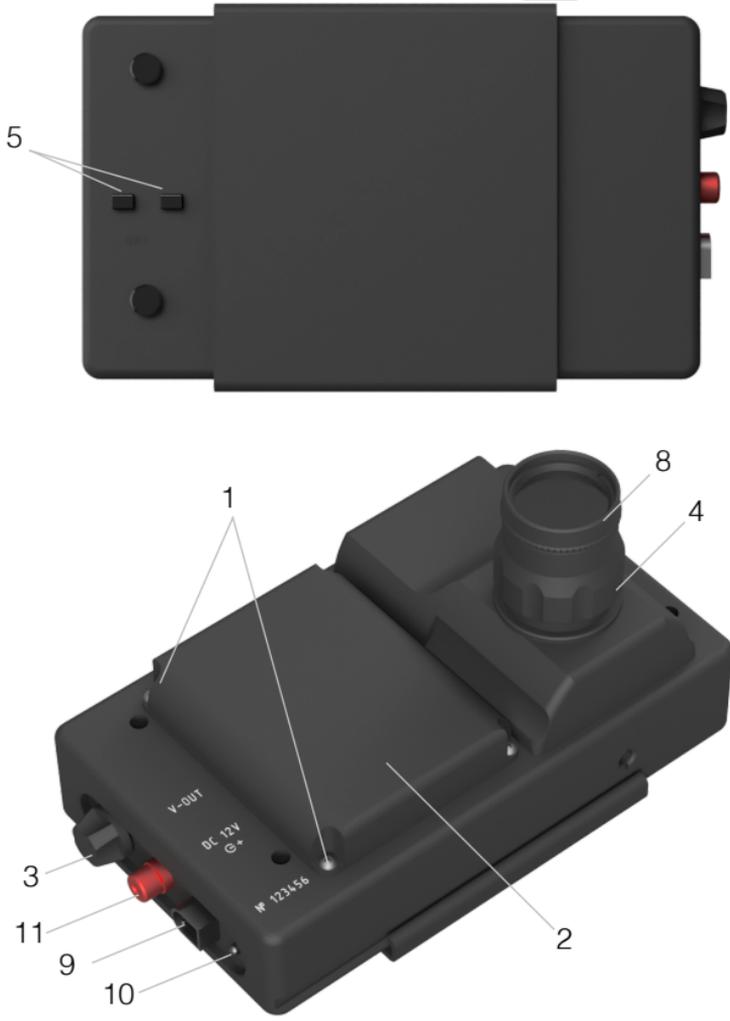


Figure 1. Contour M camera

The Maintenance instruction

- Keep device away from mechanical damage and moisture.
- Protect the lenses from dirt. If necessary, clean them with clean soft cloth; remove oiled spots or deposit with cotton wool slightly wetted in alcohol.
- Use stabilised certified AC/DC 110-220V/12V adapter (not included).

Spectral sensitivity

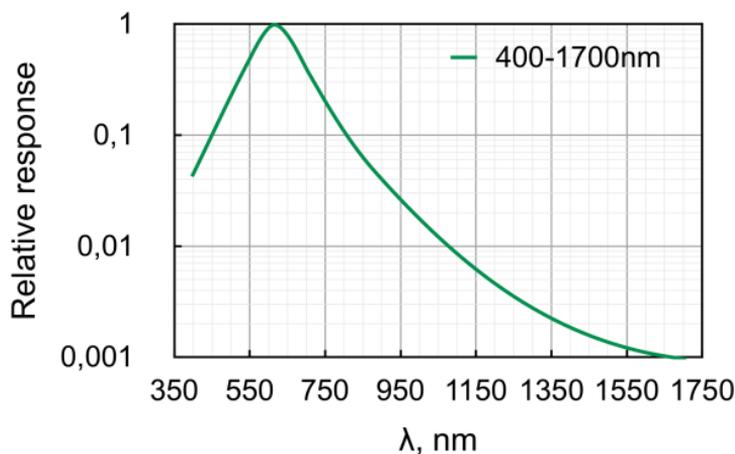


Figure 2. Spectral sensitivity (Contour M camera)

Power density

The approximate minimum of power density of radiation on an object at the signal-to-noise ratio =10 (20dB) on a 0,2m distance:

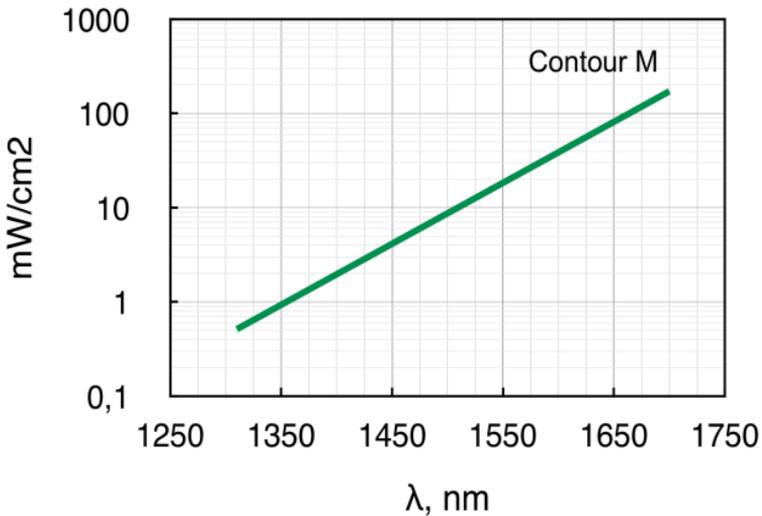


Figure 3. Power density (Contour M camera)

Technical information

| | |
|--------------------------------|---|
| Visual magnification | 1X |
| Spectral sensitivity | 400-1700nm |
| Lens | F1.4/26mm, CS-mount |
| Field of view | 10° |
| Focusing range | 0.2m (or 0,1m)* to inf |
| Sensor size | 1/3 inches, 6.3mm x 4.7mm |
| Pixel size | 6.5 (h) x 6,25 (w) μ m |
| Display | 4 inch <i>TFT-LCD</i> 480x234 |
| Max. resolution | 300 TV lines |
| Resolution at max. Sensitivity | 135 TV lines |
| Ratio signal-to-noise | 46 dB |
| Gamma | 0.45 |
| Video output/input | CCIR Standart composite video |
| Functions | Brightness; Contrast; Video out |
| Power supply | 4x "AA" type rechargeable batteries, DC 12V, 400mA stabilized |
| Temperature range | +5... +40°C |
| Weight | 0.77 kg |
| Dimensions | 160x95x100 mm |

* with distance ring

Standard kit includes:

- IR camera;
- distance ring;
- IR cut-off filter;
- 4x AA rechargeable batteries;
- AC/DC adapter
- tripod;
- manual;
- case.

Accessories available upon request;

- Iris diaphragm
- Neutral density filter for lens 1X(3-5% @ 1064nm)
- Neutral density filter for lens 2X(3-5% @ 1064nm)
- Microscope adapter
- Lens 2X (F1.8/50mm)
- Lens 1X(F1.4/26mm)
- Distance ring
- C-mount ring for any CCD lenses

Warranty

Infrared viewing device CONTOUR M meets specifications of the manufacturer and declared operation.

The warranty period of the device is 24 months from the date it was sold to the consumer.

Claims not accepted, and warranty repair are not made, because of the improper use or incorrect service and maintenance of product instructions. The company shall not accept warranty claim:

- non-authorized alteration,
- disassembling of device,
- mechanical or any external damages,
- if 2 year warranty term has expired.

Serial No.

Version No.

Spectral range

Date of Issue

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