

## MTM-V2 Mini Thermal Monocular w/ Visible Red Marking Laser

Insight has listened to the user feedback on the MTM and responded with the MTM-V2. The V2 is a more cost-effective method of putting the industry-leading miniaturization and resolution into the hands of more law enforcement agencies and first responders. The MTM-V2 has reduced the offering of ancillary items (image capture/video interface package, helmet mount and night vision filter/demist shield) without substantially sacrificing the core technology enabling thermal detection, recognition and identification of a scene. The MTM-V2 is more evidence of Insight's continuous efforts to take cutting-edge military inspired designs and put them in the hands of the men and women on the job, every day.

### Features & Benefits:

- Lightweight -11 oz (with Batteries).
- Waterproof to 66'.
- External Video Jack.
- Facial Recognition.
- Stationary Man-Sized Target Detection at 400 Meters.
- Moving Man-Sized Target Detection at 500 Meters.
- Integrated Visible Red or IR Marking Laser.
- Menu-driven functions include:
  - Brightness & Gain + Polarity
  - Calibration & 2x Digital Zoom
- Adjustable Focus
- Unity Magnification
- External Video Jack
- Ergonomically Designed for Handheld Operations
- 4 Hours Continuous Operation Using Two 3-Volt Lithium Batteries (1 23)
- Lightweight / Pocketsize, 11.5 oz.
- Waterproof to 3'



**PART #: MVP-MTM-000-A5**



Shown with 2x Magnifier Lens – not included



**MOROVISION NIGHT VISION, INC.**  
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### EXPORT NOTICE:

Export of this product is regulated by the U.S. Department of State in accordance with guidelines of "International Traffic in Arms Regulations (ITAR)" per Title 22, Code of Federal Regulations, Parts 120-130.

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### Digital Zoom

The MTM has the ability to provide two times digital zoom.. The circuitry replicates the IR pixels in both the horizontal and vertical dimension thereby doubling the number of video pixels in each dimension. This feature is useful in close up examination of details within the imagery.

### Field of View (FOV)

The MTM field of view of 29.6 degrees, coupled with the 320 x 240 detector array, provides the resolution required to meet established detection and recognition objectives and still provides the situational awareness required in a surveillance device. Sensitivity and size is optimized in the selection of the F/# of 1.05. Using the 320 x 240 format of the focal plane array, this translates into a 23.4 horizontal field of view and a 17.6 vertical field of view.

- Focus range: 18 inches to  $\infty$
- Operational temperature: -10C to +50C
- Storage temperature: -34C to +71C
- Adjustable focus - provides a focus adjust range of 2 feet to infinity

### Adjustable Diopter

The design incorporates a diopter adjustment of +4.0 to -6.0 at a 1 inch eye relief to allow use by a large population of viewers without the need for corrective lenses.

### Reticle and Laser

The MTM has an integrated 840 (+ 10 / -20) nm laser adjusted for 0.5 mW output optical power. The laser diode is capable of 50 mW but is tuned down for class I eye safe considerations. The laser diode has an integral photo-detector to monitor the output power thereby providing closed loop control of the optical power over temperature and the life of the unit. As part of the electronic symbology, an aiming reticle is provided which designates the position of the laser pointer. During the assembly process, the laser is aligned to the center of the thermal field of view. Because of the potential danger to the mission and the potential for inadvertent use of the laser source, the MTM incorporates two distinct indicators. The first consists of alternating white and black squares in both the lower left and upper right corner of the display. The contrasting colors ensure the operator will see the designation even in the presence of a saturated hot or cold scene. The second indicator, if the operator is not looking into the display, is a low intensity green LED directed out of the rear of the MTM which alerts the operator that the laser is active.

### Ease of Use

The MTM menu structure has been optimized for ease of use with the more frequently accessed functions readily available to the operator. The POWER button is multifunctional and produces different effects depending on the system status (i.e., ON, OFF) and how the button is pressed.

### Battery Life

The MTM operates for greater than 2 hours at 32°F. The MTM utilizes low power, highly integrated circuit designs to achieve a long run time on only two DL-123 batteries. The measured current draw at ambient temperature with the unit imaging at 1/2 scale brightness is 0.25 amps at 6 volts (1.5 watts). With the laser activated, the current increases to 0.28 amps (1.68 watts). At full operation with lasers on, using the standard battery power, the run time is predicted to be 7 WHrs / 1.68 W or 4.2 hours. The low battery indicator displays the LOW POWER message when the battery voltage reaches 4.1 volts. The unit will usually remain operational until the voltage drops to below 3.0 volts.

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### System Controls

Use of raised, tactile frame enclosures around the switches allows the operator to 'feel the switch' in blacked out conditions. Recessing the switches helps prevent inadvertent activation. Noise free operation required the use of more supple switch domes with a depression force less than 200 grams. To mitigate the unwanted power turn-on at underwater pressures, a double tap ON feature has been added to the software. Under pressure, the switch remains closed and the unit will POWER DOWN within 10 seconds thereby preserving the battery life.

### Body Finish

The MTM is constructed from an advanced engineering polymer that has a matte finish through and through and will not reveal a silver or metallic base metal when scratched. All exposed aluminum or steel components are black anodized to reduce reflection.

### Noise Emissions

While operating, the MTM does not produce noise detectable by anyone other than the operator. When operating in a steady state, the MTM does not emit any noise at all.

**Estimated Annual Operating Costs:** Less than \$50/yr for rechargeable batteries (cost varies with use).

**Additional Equipment Required:** None

**Target Audience:** This product is NOT intended for use in active firefighting environments. Recommended for law enforcement and search & rescue.



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