

FM500C1 · A COMPACT SQUARE-FORMAT THERMAL IMAGING SIGHT WITH A 256 X 192 DETECTOR, 13 MM F0

FM500C1 1x Square Mini Thermal Imaging Sight

A compact square-format thermal imaging sight with a 256 x 192 detector, 13 mm F0.9 objective and 1.6-inch 360 x 320 touchscreen. Five palettes, five reticle colours, still/video capture and an RMR mounting footprint make the FM500C1 (FM500C01) a flexible observation and aiming tool.



DETECTOR**256 x 192 thermal**

DISPLAY**1.6 in · 360 x 320**

LENS / FOV**13 mm F0.9 · 13.5° x 10.1°**

MOUNT**RMR base**

FM500C1 at a glance

The FM500C1 is a compact square-format thermal imaging sight. It integrates a 256 × 192 thermal imaging module, a 13 mm F0.9 objective lens and a 1.6-inch 360 × 320 touchscreen, and is controlled by two buttons together with touch gestures on the main interface. The model is also identified as **FM500C01** in the supplied documentation; FM500C1 and FM500C01 refer to the same product.

The sight provides five image palettes and five reticle colours, adjustable image contrast, brightness and enhancement, hot-spot tracking, burn-in protection, and still-photo and video capture. Zeroing is carried out directly in the zeroing screen. The standard mounting interface is the supplied RMR base; optional Picatinny mounts and an RMSc base are available, subject to the delivery documents.

The FM500C1 is intended for aiming and observation on host equipment that provides a compatible RMR mounting interface, and for use only in accordance with the laws and regulations of the country of use. It is not a toy and is not intended for use by children. It does not replace safe handling practice.

Key features

- **256 × 192 thermal imaging module** with a 13 mm F0.9 objective lens.
- **1.6-inch, 360 × 320 touchscreen**; field of view 13.5° × 10.1°.
- **Dual control**: two buttons for power, shutter calibration and capture; touchscreen for menu, reticle, palette and magnification settings.
- **Five image palettes**: white hot, black hot, green hot, red hot and iron; palettes can be enabled or disabled individually.
- **Five reticle colours** (white, black, green, blue and red); reticle size adjustable; zeroing with the direction keys.
- **Imaging functions**: image contrast, image/reticle/screen brightness, enhancement, hot-spot tracking and burn-in protection.
- **Still photos and video capture** controlled by the photo/video button.
- **Two 16280 batteries** with an operating time of at least 8 h; Type-C 5 V external power input.
- **RMR base supplied**; optional Picatinny mounts and an RMSc base are available.
- **Compact and light**: 99 g excluding batteries, 53 × 42 × 43 mm.
- **Environmental**: operating temperature −20 °C to +50 °C; shock resistance 1,000 g.

Technical specifications

Values are transcribed from the FM500C1 / FM500C01 controlled user manual, revision v2 dated 18 October 2026. Values apply within the stated operating-temperature range after the sight has reached thermal equilibrium. This page is a product reference, not an independent test report or certification.

Optical and display

PARAMETER	VALUE	CONDITION / NOTE
Objective lens	13 mm F0.9	—
Field of view	13.5° × 10.1°	—
Display	1.6 in, 360 × 320	Touchscreen
Detector resolution	256 × 192 pixels	Detector pixels, not display pixels
Image polarity	White hot, black hot, green hot, red hot, iron	Palettes can be enabled or disabled individually
Reticle colours	White, black, green, blue, red	Reticle size adjustable
Interface languages	English, Chinese, Russian	—

Power

PARAMETER	VALUE	CONDITION / NOTE
Battery	16280, two cells	Flat-top cells; observe polarity markings
Operating time	≥ 8 h with two batteries	Depends on video recording, screen/reticle brightness, shutter calibrations and ambient temperature
External power input	Type-C, 5 V	External power input; the manual does not state charging capability

Mechanical and environmental

PARAMETER	VALUE	CONDITION / NOTE
Mounting interface	RMR base (standard component)	Optional Picatinny mounts and RMSc base per delivery documents
Weight	99 g excluding batteries	—
Dimensions	53 × 42 × 43 mm	Axis order and measurement boundary are not stated
Shock	1,000 g	—
Operating temperature	−20 °C to +50 °C	After thermal equilibrium within the stated range
Storage temperature	0 °C to +55 °C	—
Storage humidity	≤ 80 % RH	Dry, ventilated storage free of corrosive gases

How the thermal imaging channel works

The FM500C1 uses an uncooled thermal imaging module to detect long-wave infrared radiance from the scene. The 13 mm F0.9 objective forms an image on the detector, and the electronics convert the signal into a visible image on the 1.6-inch touchscreen. Because the image is formed from thermal radiance rather than reflected visible light, targets can remain visible in low light or darkness when their temperature differs from the background.

Five palettes let the user match the display to the scene: white hot, black hot, green hot, red hot and iron. Contrast, brightness and enhancement settings affect how much detail is visible. Hot-spot tracking highlights the warmest region, and burn-in protection reduces the risk of a static bright image leaving a persistent trace on the display.

The FM500C1 is an imaging and aiming sight, not a calibrated radiometric thermometer. Its palettes display relative thermal contrast; they do not provide a certified temperature measurement.

Performance conditions and limits

- **Thermal contrast** depends on target-to-background temperature difference and emissivity. Low-contrast scenes may show little detail even when the detector is working correctly.
- **Atmospheric transmission** is reduced by fog, heavy rain, dust and smoke. Thermal imaging can help in some obscurants, but it does not guarantee seeing through every one.
- **Ordinary glass** blocks much of the long-wave infrared band, so the sight generally cannot image through a closed window or glass barrier.
- **Operating time** depends on video recording, screen and reticle brightness, the number of shutter calibrations and ambient temperature.
- **Shock rating** (1,000 g) is a stated test value, not a guarantee for every host, mount, ammunition load or installation.
- **Storage humidity** is a storage condition, not an operating-humidity or enclosure-rating claim.

Intended use and application scenarios

The FM500C1 is intended for aiming and observation on host equipment that provides a compatible RMR mounting interface, and for use only in accordance with the laws and regulations of the country of use. It is not a toy and is not intended for use by children.

- **Compact thermal observation and aiming** on RMR-footprint hosts where the mount and host are rated for the sight.
- **Low-light and night observation** where thermal contrast reveals target outlines.
- **Thermal survey and field observation** using the five palettes, contrast/brightness controls and hot-spot tracking.
- **Documentation of field observations** with still photos and video.
- **Sport shooting, hunting where lawful, training and professional use** on compatible hosts.

Application examples describe configuration possibilities, not a guarantee of detection, identification, hit probability or legality in a particular jurisdiction. Confirm local law and the host/mount compatibility before use.

Mounting, power and configuration

The standard mounting interface is the supplied RMR base. Optional 90° side-flip Picatinny, 45° Picatinny, one-piece quick-detach Picatinny and RMSc bases are listed in the supplied manual, subject to the delivery documents. The manual notes a mounting torque of 15–20 ft-lb on the accessory documentation; confirm the torque and installation requirements of the actual mount and host. The mounting interface of the host equipment and the delivery documents of the mounting parts govern compatibility.

Power is supplied by two 16280 batteries, with a Type-C 5 V external power input. The manual describes the supplied charger and Type-C cable; use the supplied charger for the cells. The supplied manual gives the complete battery, menu, zeroing and inspection procedure; this page intentionally does not reproduce operating instructions.

Before installation, zeroing, cleaning or any inspection, confirm that the host equipment is unloaded and in a safe state. After any impact, mount change or re-tightening, re-check the zeroing result before relying on the point of impact.

Care, storage and safety

- Remove loose dust and large particles with a clean soft brush or an air blower before wiping the objective lens. Wipe the lens with a lens cloth or professional lens tissue in one direction without pressing hard.
- Wipe non-optical surfaces with a clean, soft, dry cloth. Do not use organic solvents, alkaline cleaners or abrasive fabrics on the housing or optical surfaces. Do not touch the optical surfaces with fingers.
- If the sight becomes wet, dry the outer surfaces before opening the battery compartment, and power it on only after it is dry.
- Remove the batteries for long-term storage. Store in a dry, ventilated environment free of corrosive gases at 0 °C to +55 °C and no more than 80 % RH. Keep the sight in its protective case, protected from impact, direct sunlight and corrosive substances.
- Do not disassemble or modify the sight, and do not replace parts with non-original items. Do not attempt to clean the inside of the housing or objective assembly.
- Do not point the sight directly at the sun, lasers, welding equipment or other high-intensity heat sources, whether powered on or off.
- Do not disassemble, throw or short-circuit the batteries, and do not put them into fire or water. Do not dispose of lithium cells with household waste; follow local recycling and disposal rules.

Ordering, stock and dispatch

Prices below are published B2B unit prices in USD, shipping included to the address entered at checkout. Insurance, import duties, taxes and clearance fees are excluded. The server reconfirms the selected quantity tier before PayPal approval; no prior quotation or PI is required for eligible online orders.

QUANTITY	UNIT PRICE (USD)	DISPATCH AFTER VERIFIED PAYMENT
1–10 pcs	659	1–100 pcs: stock basis 100 pcs; dispatch within 7 working days
11–100 pcs	599	1–100 pcs: stock basis 100 pcs; dispatch within 7 working days
101–500 pcs	459	101–500 pcs: 45 working days
501–1,000 pcs	429	501+ pcs: 60 working days
1,001+ pcs	400	501+ pcs: 60 working days

Dispatch days are working days counted from verified payment. The stock basis is 100 pcs for the in-stock band. Larger quantities are produced to order. Shipping is included to the shipping address entered at checkout; the terms shown in the cart and order confirmation govern the accepted order.

Frequently asked questions

▼ Is FM500C1 the same as FM500C01?

Yes. The supplied documentation identifies the product as FM500C01, and ERDI uses FM500C1 as the commercial model designation for the same product.

▼ What thermal detector and lens does it use?

A 256 × 192 thermal imaging module with a 13 mm F0.9 objective lens and a 13.5° × 10.1° field of view. The touchscreen is 1.6-inch with 360 × 320 resolution.

▼ What palettes and reticles are available?

Five palettes (white hot, black hot, green hot, red hot and iron) and five reticle colours (white, black, green, blue and red). Reticle size is adjustable, and zeroing is performed on the zeroing screen.

▼ What battery does it use and how long does it run?

Two 16280 batteries, with an operating time of at least 8 hours. Runtime depends on video recording, screen and reticle brightness, shutter calibrations and ambient temperature. A Type-C 5 V external power input is also provided.

▼ Does the Type-C port charge the batteries?

The manual describes a Type-C 5 V external power input but does not state a charging function. Use the supplied charger for the 16280 cells and follow the charger instructions.

▼ Can it record photos and video?

Yes. The photo/video button controls still-photo capture and video recording. This page does not make additional claims about file format, capacity, audio or recording rate beyond the supplied manual.

▼ What mount does it use?

The standard mounting interface is the supplied RMR base. Optional Picatinny mounts and an RMSc base are available, subject to the delivery documents. The host interface and the mounting-part documents govern compatibility.

▼ How much does it weigh?

99 g excluding batteries, with dimensions of 53 × 42 × 43 mm. The manual does not state the measurement boundary or the weight with batteries.

▼ What environmental limits apply?

Operating temperature –20 °C to +50 °C, storage 0 °C to +55 °C and ≤ 80 % RH, and a stated shock resistance of 1,000 g. The storage humidity is a storage condition, not an operating or ingress rating.

▼ Can a thermal sight see through glass?

Ordinary glass blocks much of the long-wave infrared band used by thermal imagers, so the sight generally cannot image through a closed window or glass barrier. Confirm the optical path in the intended installation.

▼ Does it measure temperature?

No. The FM500C1 is an imaging and aiming sight, not a calibrated radiometric thermometer. Its palettes display relative thermal contrast, not a certified temperature reading.

▼ What is the warranty?

Warranty terms are as stated in the sales contract and the delivery documents. Damage caused by failure to observe the manual, unauthorised disassembly or modification, non-original parts, accident or improper storage is not covered.

▼ What is the price and lead time?

Published unit prices are USD 659 (1–10), 599 (11–100), 459 (101–500), 429 (501–1,000) and 400 (1,001+), shipping included. In-stock quantities (1–100 pcs, stock basis 100 pcs) dispatch within 7 working days after verified payment; 101–500 pcs dispatch in 45 working days and 501+ pcs in 60 working days.

▼ Can I download the user manual?

The product datasheet on this page summarises the controlled model data. The complete user manual is supplied with the product; contact sales@erdicn.com for a configuration-matched copy or service documentation.

References and evidence boundaries

The model-specific values on this page come from the ERDI controlled product document. The external references below explain general thermal-imaging and safety science; they do not test, certify or endorse the FM500C1.

1. ERDI TECH LTD, *FM500C01 Square Mini Thermal Imaging Sight — User Manual*, revision v2, 18 October 2026, 24 pp. Model-specific source for the values and care statements on this page (not a public download).
2. NASA Science, [Infrared Waves](#). General background on infrared radiation; not a product specification.
3. M. Vollmer & K.-P. Möllmann, [Infrared Thermal Imaging: Fundamentals, Research and Applications](#), Wiley (2010). General thermal-imaging physics; not a test of this sight.
4. NIST, Lane & Whiteman, [NISTIR 8098 — Calibration and Measurement Procedures for a High Magnification Thermal Camera](#) (2016). Thermography calibration and uncertainty; not a product certification.
5. International Organization for Standardization, [ISO 18434-1:2008 — Condition monitoring and diagnostics of machines — Thermography — Part 1: General procedures](#). General thermography framework; no compliance claim is made.
6. International Electrotechnical Commission, [IEC 60529 — Degrees of protection provided by enclosures \(IP Code\)](#). Defines the IP code; does not certify this product.
7. International Electrotechnical Commission, [IEC 62133-2:2017 — Secondary cells and batteries containing alkaline or other non-acid electrolytes — Safety requirements for portable sealed secondary lithium cells and batteries](#). General battery-safety standard; no product compliance claim is made.
8. International Commission on Non-Ionizing Radiation Protection, [ICNIRP Guidelines on Limits of Exposure to Incoherent Visible and Infrared Radiation](#), *Health Physics* 105(1), 2013. General optical-radiation safety guidance; not a product classification.
9. European Union, [Regulation \(EU\) 2021/821 — dual-use export controls](#). General export-control framework; not a legal determination for a particular transaction.

Warranty, compliance and contact

Warranty terms are as stated in the sales contract and the delivery documents. Damage caused by failure to observe the manual, unauthorised disassembly or modification, non-original parts, accident or improper storage is not covered. Keep the packaging and delivery documents for any claim.

The FM500C1 is a firearm accessory. The buyer and user are responsible for compliance with all applicable laws and regulations governing purchase, possession, transport and use. Thermal imaging and firearm accessories may be subject to export-control or dual-use rules; confirm the destination, end user and end use before export, re-export or transfer, and obtain any required licence. This page is not legal advice.

Technical support, spare parts and warranty service: sales@erdicn.com. Quote the model (FM500C1 / FM500C01) and the serial number marked on the product.