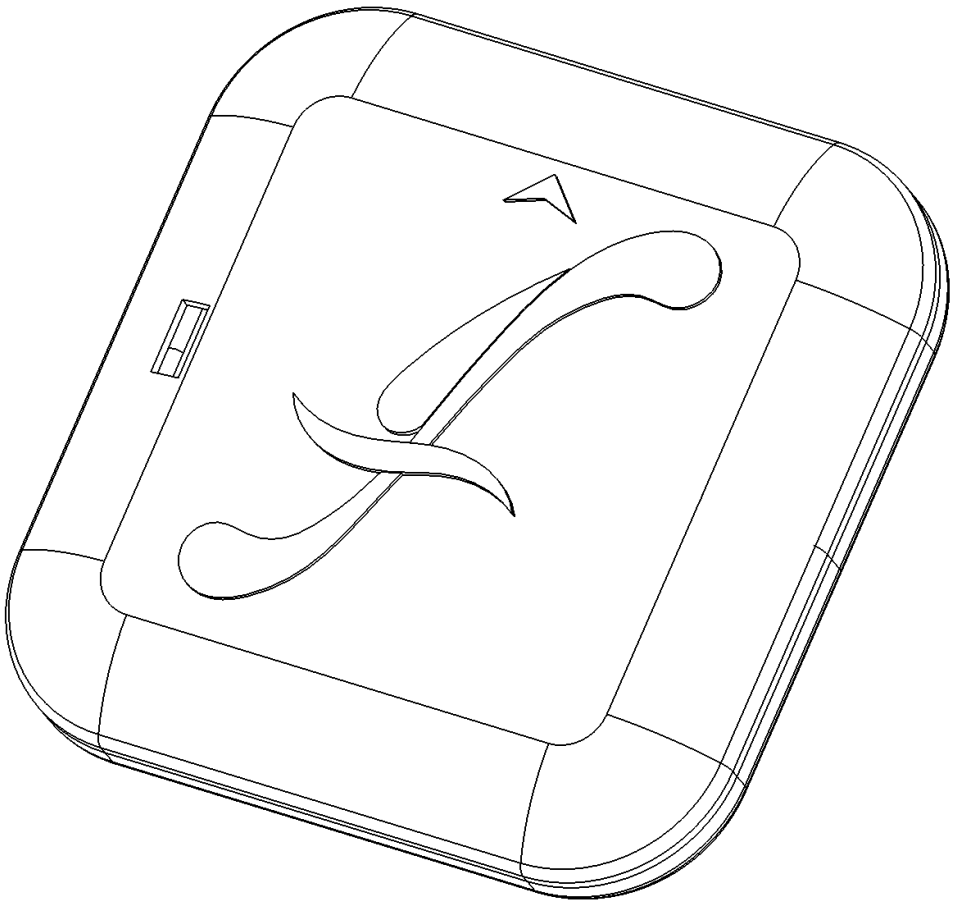
ELARA

v 1.0
2026.03

User Manual



Product overview

ELARA - V1 is a high-performance GNSS module engineered for advanced UAVs and autonomous platforms, built around the reliable u-blox M9N chipset. It delivers precise positioning, fast satellite acquisition, and consistent performance even in challenging environments. Designed to support multiple global navigation satellite systems (GNSS), IndiNavgati-V1 ensures enhanced accuracy and availability by utilizing signals from GPS, GLONASS, Galileo, and BeiDou. This multi-constellation capability significantly improves positioning reliability and reduces signal loss during flight operations. The module is optimized for seamless integration with popular open-source flight control ecosystems such as PX4 and ArduPilot, making it an ideal choice for developers, researchers, and drone manufacturers. With its compact design, robust performance, and high sensitivity, IndiNavgati-V1 is well-suited for applications requiring dependable navigation, including aerial mapping, surveying, and autonomous navigation systems.

Key Features

Parameter	Value
Operating Voltage	5V
Average Current	110 mA
Maximum Current	117 mA
Chipset	u-blox M9N
Protocol	UBX, NMEA
Baud Rate	9600 – 115200
Interface	UART

Wiring & Connections

Connect the module as follows:
VCC → 5V power supply
GND → Ground
TX → RX of the flight controller
RX → TX of the flight controller
Ensure correct polarity and secure connections before powering the system.

Installation Guidelines

For optimal performance, follow these installation practices:
Mount the GPS module on the top of the airframe

- Ensure clear, unobstructed sky visibility
- Maintain distance from ESCs, power modules, and high-current wires
- Avoid enclosing the module inside carbon fiber or metal structures

💡 **Pro Tip:**
Using a GPS mast can significantly improve satellite reception and accuracy.

First-Time Usage

•Place the drone in an **open outdoor environment**
•Power on the system
•Wait approximately **1–3 minutes** for initial satellite lock

💡 **Note:**
The first fix (cold start) may take longer. Subsequent fixes will be significantly faster.

Software Configuration

IndiNavgati-V1 supports seamless integration with **PX4** and **ArduPilot** ecosystems.

Recommended Configuration:

1. Interface: UART
2. Baud Rate: **115200**
3. Protocol: **UBX (preferred)**

Troubleshooting

Issue	Possible Cause	Solution
No GPS Lock	Obstructed sky view	Move to open area
Module Not Detected	Wiring or port misconfiguration	Verify connections and UART settings
Slow Fix	Cold start	Wait longer or restart
Incorrect Data	Wrong baud rate or protocol	Set baud rate to 115200, use UBX

General Safety Guidelines

⚠ WARNING

Improper handling or installation may lead to system failure, crash, or injury.

- Read this manual thoroughly before installing or operating the GNSS.
- Ensure all components are properly installed and secured before powering the system.
- Do not modify or tamper with the.
- Avoid exposing the GNSS to water, excessive moisture, dust, or extreme temperatures.

⚠ CAUTION

Sensitive electronic components may be damaged by improper handling.

- Use only compatible components and accessories recommended for UAV systems.
- Always disconnect power before making or modifying any wiring connections.
- Keep the GNSS away from conductive materials that may cause short circuits.

Battery & Power Safety

⚠ WARNING

Incorrect battery usage may result in fire, explosion, or permanent damage.

- Use only batteries that meet the recommended voltage and current specifications.
- Verify correct polarity before connecting the power supply.
- Do not exceed the maximum input voltage rating of the GNSS.
- Never use damaged, swollen, or leaking batteries.

⚠ CAUTION

Improper power connections can damage the GNSS and connected components.

- Ensure all power connections are secure and properly insulated.
- Avoid connecting or disconnecting power while the system is active.
- Monitor battery levels to prevent deep discharge.

⚠ EMERGENCY NOTICE

- In case of overheating, unusual smell, or smoke, immediately disconnect power.
- Move the system to a safe, non-flammable area.
- Do not reuse the battery until it has been inspected.

Warranty & Support

Warranty Terms
The ELARA GNSS is covered by a **limited warranty** against manufacturing defects in materials and workmanship under normal use.
Warranty Period: 12 months from the date of purchase.
The warranty applies only to the original purchaser and is non-transferable.

⚠ WHAT IS COVERED

•Manufacturing defects in hardware components
•Failure under normal operating conditions as described in this manual

⚠ WHAT IS NOT COVERED

•Damage caused by improper installation, wiring, or misuse
•Damage due to crashes, physical impact, or water exposure
•Electrical damage due to incorrect voltage, reverse polarity, or power surges
•Unauthorized modifications or repairs
•Normal wear and tear

⚠ IMPORTANT

Proof of purchase is required to claim warranty. Indiflo reserves the right to inspect and verify the defect before approving any claim.

Support Contact

For technical support, troubleshooting, or warranty claims, please contact:
Email: support@indiflo.com
Website: www.indiflo.com
Response Time: Typically, within 24–72 business hours
When contacting support, please provide:

- Product model and version (e.g., V1 / V1 Pro)
- Description of the issue
- Photos or videos (if applicable)
- Purchase details

Service Process:

1. Contact support and describe the issue.
2. Receive troubleshooting steps or service authorization.
3. If required, ship the product to the designated service center.
4. After inspection, the unit may be repaired, replaced, or returned based on warranty status.
   - •The customer is responsible for total shipping costs unless covered under warranty. (The customer will be responsible for covering the shipping costs associated with shipping the item when under warranty.)
   - •Repair or replacement timelines may vary depending on issue severity and part availability.