







Rescue Locator

Search & Rescue Treasure — Ultra-low-power miniaturized personnel & asset tracker

 $\Phi 34.9 \times 11 \text{ mm}$  $\approx 10 \text{ g}$  **30+ days**  **IP66**  $\leq 2 \text{ m}$  **5G IoT**

Product Overview

The **Rescue Locator** (搜救宝) is a next-generation IoT positioning terminal that combines **GNSS high-precision satellite positioning** with **5G cellular IoT communication** in an ultra-compact form factor. Designed for emergency search & rescue, real-time asset tracking, and unified team management, it delivers indoor/outdoor seamless location with meter-level accuracy — while weighing only about ten grams and running for over a month on a single charge.

Manufactured by **Suzhou Shengxin Electronic Technology Co.,Ltd**, the Rescue Locator is backed by a carrier-grade IoT cloud platform that has already served **500,000+ users** in production and has been granted multiple invention patents for its proprietary team-formation and search algorithms.

Technical Specifications

PARAMETER	SPECIFICATION
Product Name	Rescue Locator (Search & Rescue Treasure / 搜救宝)
Model	CH-96
Dimensions	Diameter 34.9 mm × Thickness 11 mm
Weight	≈10 g (single unit)
CPU / SoC	Low-power IoT processor
Positioning	GNSS + Cellular Base-Station Assisted (A-GNSS)
Positioning Accuracy	≤2 meters (outdoor); seamless indoor/outdoor handover
Communication	5G NR IoT (NB-IoT / LTE-M fallback)
Protocol	3GPP Release 15/16 NB-IoT, LTE Cat-M1
SIM	Embedded eSIM / Nano-SIM (region-dependent)
Battery Life	30+ days (typical standby, 1 report/day); configurable reporting interval
Battery Type	Rechargeable Lithium-Polymer, low-self-discharge
Charging	Magnetic pogo-pin / Micro-USB (accessory dependent)
Ingress Protection	IP66 — dust-tight & protected against powerful water jets
Operating Temperature	-20 °C to +65 °C
Humidity	5%–95% RH (non-condensing)
Sensors	3-axis accelerometer (tamper / motion / fall detection)
Alarm	Anti-disassembly / tamper alarm with instant push notification
App Platform	iOS & Android; dedicated "Rescue Locator" app
Cloud Backend	CcGate IoT platform — 500k+ users, 24×7 operation, 90+ enterprise features
OTA Updates	Firmware-over-the-air (FOTA) supported
Certifications	CCC / SRRC / RoHS / CE (region-dependent)

Key Features

Ultra-Miniaturized

Industry-leading compact design: $\Phi 34.9 \times 11$ mm, ~10 g. The smallest and lightest in its class — barely noticeable when worn or attached.

5G IoT Connectivity

Long-range cellular communication over 5G NB-IoT / LTE-M networks. Operates wherever there is cellular IoT signal — no gateway or local hub required.

GNSS High-Precision Positioning

Dual-mode GNSS + base-station-assisted positioning delivers ≤ 2 m accuracy. Seamless indoor/outdoor transition via wireless base-station triangulation.

Ultra-Low Power

Proprietary ultra-low-power algorithm co-developed with Huawei. Achieves 30+ days of standby on a single charge with intelligent sleep/wake scheduling.

IP66 Ruggedized

Deep three-proof (dust, water, shock) design meeting IP66 standards. Reliable operation in rain, dust, high humidity, and extreme field environments.

Tamper Alarm

Built-in accelerometer detects unauthorized removal or disassembly. Instant alert pushed to the administrator's app with time and location stamp.

Dedicated App & Cloud Platform

Full-featured mobile app (iOS & Android) for real-time tracking, geo-fencing, historical trajectory playback, and one-tap SOS. Backend supports rapid team formation — entire group status visible at a glance.

Multiple Wear Options

Keychain pendant, wristband/watch-style strap, clip-on, hook-and-loop, lanyard, or throw-in-bag. Adaptable to any carry scenario.

Application Areas & Scenarios



Wilderness Search & Rescue



Construction Site Personnel



Mining & Tunnel Operations



Firefighting & First Responders



Law Enforcement Teams



Outdoor Adventure & Hiking



Child / Elderly Safety



Pet Tracking



Asset & Logistics Tracking



Fleet & Vehicle Management



School Trip Management



Hospital Patient Monitoring



Prison / Detention Supervision



Disaster Relief Coordination









Maritime Crew Safety

Typical Use Scenarios

- ▶ **Emergency Rescue:** Each rescuer & victim wears a Locator; command center sees real-time positions of all personnel on a unified map, enabling rapid location and extraction.
 - ▶ **Team Operations:** Fire brigades, police tactical units, or disaster-response teams form groups in the app. The commander's dashboard shows every member's live location, movement trail, and device status.
 - ▶ **Asset Security:** Attach to high-value equipment, shipping containers, or vehicles. Geo-fence alerts notify when an asset leaves its designated area.
 - ▶ **Personal Safety:** Children, elderly with dementia, or solo adventurers carry a Locator. Guardians receive instant alerts on boundary breach or SOS activation.
 - ▶ **Event Crowd Management:** Large-scale outdoor events, school field trips, or marathon races — organizers track distributed groups in real time.
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Wearing & Carrying Methods

 <p>Keychain Pendant Attach to keys or bag zipper</p>	 <p>Wristband / Watch Wear on wrist with silicone strap</p>	 <p>Carabiner Clip Clip onto belt, harness, or webbing</p>	 <p>Lanyard / Neck Strap Wear around neck under clothing</p>	 <p>Throw-in / Pocket Drop into bag, pocket, or pouch</p>				
 <p>Sew-in / Stick-on Attach inside clothing or to flat surface</p>								
Keychain	Wristwatch	Hang	Buckle	Clip-on	Throw	Stick-on	Lanyard	Sew-in

System Architecture

LAYER	DESCRIPTION
Device Layer	Rescue Locator terminal — GNSS positioning, 5G IoT communication, on-board sensors, tamper detection
Network Layer	5G NB-IoT / LTE Cat-M1 cellular network, transparently routed via carrier IoT core to CcGate cloud
Cloud Platform	CcGate IoT platform — device management, data ingestion, geo-computation, rule engine, 500k+ user capacity, 24x7 SLA
Application Layer	iOS / Android mobile app + Web management console — real-time map, geo-fencing, team formation, historical playback, alerts