INDUSTRIAL CONNECTIVITY / ENGLISH TECHNICAL DOCUMENT

CM550-55 Series

Industrial RTU with GPS/BeiDou positioning



Original source photograph

Source revision not stated | English review edition | 21 October 2026

REVIEW EDITION - translated from the supplied Chinese document. Source inconsistencies and optional features are retained. See the final review checklist.

Inside this document

Product scope / Technical data / Interfaces and installation / Functions and configuration / Source review notes

Product overview and model selection

Source p. 1

The CM550-55 Series industrial RTU integrates data acquisition, remote control and wireless communication, with analog acquisition, digital input/output, pulse counting, Ethernet, RS232/RS485 and 2G/3G/4G cellular connectivity. Its application emphasis is GPS/BeiDou positioning.

It accepts sensor/transmitter outputs, logic levels, dry contacts and pulse signals. The source describes an industrial 32-bit processor, real-time OS and continuous connection maintenance for remote monitoring/control.

Source model selection

Model	Interfaces	Network	RS232	RS485	Buffer
CM550-55F	Terminals / Ethernet	Seven-mode cellular	Yes	Yes	256 Mbit
CM550-55T	Terminals / Ethernet	4G/GPRS/GSM	Yes	Yes	256 Mbit

Industrial design and reliability

Source p. 2

- Industrial 32-bit communication processor, industrial wireless module and embedded real-time OS with MMU as described. Selected industrial components and Shengyi PCB materials; source layout principles 20H/3W.
- Software protection, CPU watchdog and Virtual Man Watch monitoring can reset the system after network or interference exceptions. Always-online/reliability statements are source claims.
- UIM/SIM and serial source-listed 15 kV ESD protection; metal housing with isolation, lightning/EMI design and source IP30 rating. Generic serial text names RS232/RS485/TTL/RS422; fitted ports are defined separately.
- Automatic DNS acquisition, TCP/IP stack, source-listed 3000 V electrical test, CE/EMC testing and CGD/FCC/CE module approvals. Source also cites a 2010 supplier award; company table later cites a 2011 award. Certification evidence is not supplied.
- Feature section input range is 6-32 V DC; the power table states 7-32 V. Reverse-polarity, overvoltage and overcurrent protection are described. Confirm approved lower limit.

Functions, control and management

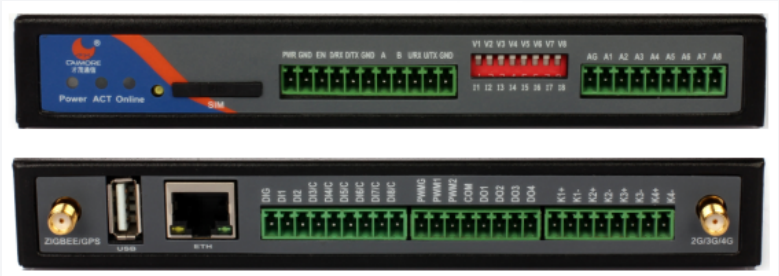
Source p. 3

- APN/VPDN; dual-center backup; eight receiving centers and up to 256 sending centers are both stated. Concurrent/maximum semantics NEEDS_VERIFICATION.
- Online checks, connection maintenance and automatic redial; SMS/call/data wake-up and timeout network disconnection; fixed-IP and DDNS dynamic-domain access.

- Eight digital inputs; two PWM outputs; four relay outputs; one RS232, one RS485 and one Ethernet connection on equipped hardware. Analog input and optoisolated digital output capabilities are specified in the electrical table, without an explicit channel count.
- Extended RTU management-platform protocol; remote parameter configuration, control and upgrade; WEB configuration and telnet; local software upgrade.
- GPS/BeiDou positioning is stated as a series feature. Zigbee is nonstandard/optional and must be specified when ordering.
- Source states Linux, UNIX and Windows support; web configuration interface; center management software can manage/control resources on many RTUs; selectable debug levels aid fault diagnosis.
- Generic interface options name RS232/RS485/TTL/RS422/USB/RJ45. Cellular family includes GSM, GPRS, EDGE, WCDMA, EVDO, TD-SCDMA and LTE FDD/TDD according to modem. Do not assume all ports or radio modes are supplied together.

Hardware interfaces

Source p. 4



Original front/rear interface photographs; shared source family illustration

Ports and electrical limits

Parameter	Source specification
RS232	One port; source 15 kV ESD protection; 5/6/7/8 data bits; 1/1.5/2 stop bits; none/even/odd/SPACE/MARK parity; 110-115200 bit/s.
RS485	One port with source 15 kV ESD protection.
Ethernet	One 10/100 Base-T port, source parenthesis Lan1-lan4; IEEE 802-3 / 802-2 notation; 1.5 kV isolation. Port-count wording NEEDS_VERIFICATION.
USB	One USB interface.
Indicators	POWER, ACT and Online.
Antenna	SMA female, 50 ohm; optional 3/5/10/15 m extension cables.

Parameter	Source specification
UIM/SIM	1.8/3/5 V push-type card interface; 15 kV ESD protection.
Power	Terminal input with reverse-polarity and overcurrent protection.
Analog input	16-bit resolution; -10 to +10 V voltage or 0-20 mA current; source accuracy better than ±0.5%, reference basis not stated. Number of channels not specified here.
Digital input	0-3.3 V low; 5-30 V high. Eight inputs in feature list, including six counting inputs at 0-1 kHz.
Relay dry contacts	Four relays in feature list; source drive capacity 5 A / 30 V DC or 5 A / 250 V AC. Load category/contact life not specified.
Optoisolated digital output	Open collector; source maxima 30 V, 40 mA and 125 mW. Channel count not specified; combined ratings require confirmation.
Optoisolated PWM	Two outputs in feature list; open collector; source maxima 30 V, 40 mA, 125 mW; 0-1 kHz frequency, adjustable duty cycle. Electrical/frequency conditions NEEDS_VERIFICATION.

Cellular radio specifications

Source p. 5

Radio parameters

Parameter	Source specification
Wireless module	Industrial wireless module; actual modem/configuration must be confirmed.
TDD radio group	LTE TDD 2600/2300 MHz; UMTS 2100/900 MHz; GSM 850/900/1800/1900 MHz; receive diversity UMTS 2100/900 MHz.
FDD radio group	LTE FDD 2600/2100/1800/DD800 MHz (source notation retained); UMTS 2100/900 MHz; receive diversity UMTS 2100/900 MHz.
Source encoding/mode list	LTE/UMTS/HSPA+/HSDPA/HSUPA/WCDMA/EDGE/GSM.
TDD-group data rates	LTE TDD DL 68 Mbit/s / UL 17 Mbit/s; DC-HSPA+ DL 42 Mbit/s (category 24); HSPA+ DL 28 Mbit/s (category 18); HSDPA DL 14.4 Mbit/s (category 8); HSUPA+ 5.76 Mbit/s (category 6; source labels DL, direction NEEDS_VERIFICATION); WCDMA CS UL/DL 64 kbit/s; WCDMA PS UL/DL 384 kbit/s.

Parameter	Source specification
FDD-group data rates	LTE FDD DL 100 Mbit/s / UL 50 Mbit/s; DC-HSPA+ DL 42 Mbit/s (category 24); HSPA+ DL 28 Mbit/s (category 18); HSDPA DL 14.4 Mbit/s (category 8); HSUPA+ 5.76 Mbit/s (category 6; source labels DL, direction NEEDS_VERIFICATION); WCDMA CS UL/DL 64 kbit/s; WCDMA PS UL/DL 384 kbit/s.
Transmit power	LTE 23 dBm; WCDMA/HSDPA 24 dBm.
Receive sensitivity	<-109 dBm.
Source-listed services	Data, voice, SMS and fax; verify service support on the ordered modem and regional network.

Processor, power and mechanics

Source p. 6

Hardware and power

Parameter	Source specification
CPU / MMU	Industrial CPU with source-listed MMU memory management.
Flash / SDRAM	64 Mbit / 256 Mbit.
Input	7-32 V DC in power table; 6-32 V in feature section. Confirm approved input.
Adapter	9 V DC / 1.5 A
Communication current	0.2 A at 9 V DC
Registration peak	1.0 A at 9 V DC
Standby	0.15 A at 9 V DC

Mechanical / environment

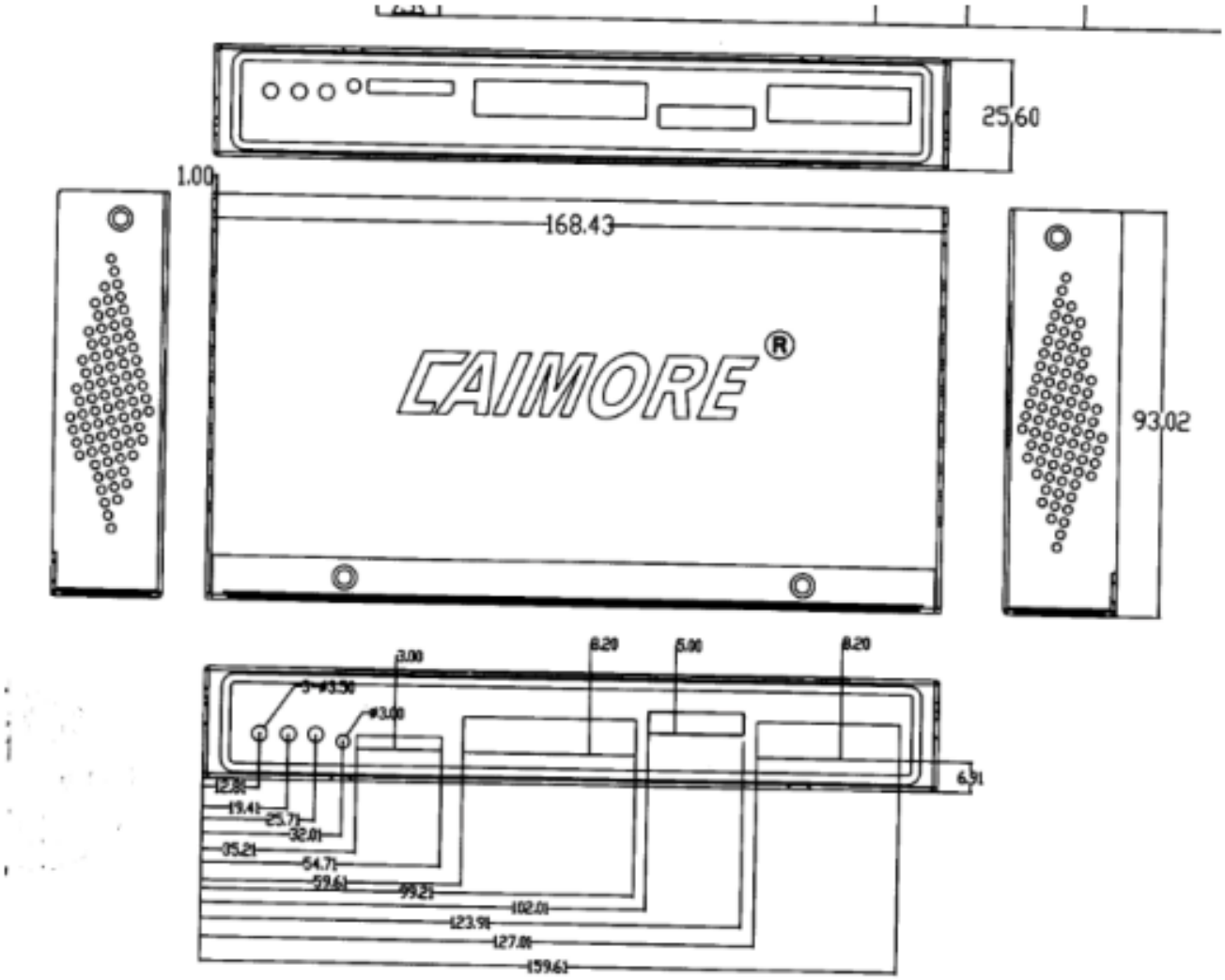
Parameter	Source specification
Housing	Metal, isolated enclosure/system, lightning/EMI design; IP30 as stated.
Body	167 x 104 x 26 mm excluding antennas/mounting.
Package	350 x 215 x 88 mm

Parameter	Source specification
Weight	0.52 kg
Operating	-25 to +70 °C
Storage	-40 to +85 °C
Humidity	95% RH, non-condensing.

Installation drawing and model-specific option scope

Source pp. 3, 7

The source names GPS/BeiDou positioning but provides no receiver model, satellite bands, position accuracy, update rate, acquisition time or output protocol. These details NEEDS_VERIFICATION; no values have been added.



Original source dimensional drawing; confirm model/revision before mechanical integration.

Applications and monitoring architecture

Source pp. 7-8

The water-industry diagram links field level/flow/quality instruments to a wireless RTU and cellular/operator network for remote monitoring. The multifunction RTU diagram illustrates field sensors/controllers and networked center servers, monitoring workstations and mobile users. External instruments, servers and platform software are integration components.

Typical uses

Parameter	Source specification
Power and utilities	Power monitoring; street-light monitoring; meter monitoring; equipment-room monitoring; distribution-network automation and remote control; remote meter reading.
Transportation	Traffic guidance; vehicle guidance; highway monitoring; traffic-light control and image transmission.
Water	Water-resource monitoring; real-time water-supply network monitoring.
Environment, meteorology and oilfields	Key pollution-source monitoring; environmental monitoring; weather monitoring; real-time noise monitoring; oilfield monitoring; heat-network monitoring; coal and gas monitoring; earthquake monitoring.
Serial equipment	Wireless data transmission for domestic and international PLCs with serial or RS485 interfaces; DTU data transmission.
Water services	Water-utility monitoring, as listed.

Company profile and historical recognition

Source p. 9

The following company information is translated from the supplied document and describes the source-era profile. Awards, counts and certifications have not been updated to the present day. English award names are descriptive translations.

Company honors

Year	Recognition stated in source
2011	Named a "Best Supplier for Customer Satisfaction in China's Industrial Control Industry"; the company's GPRS DTU received an "Innovative Product Award".
2012	Became a member of China Quality Long March.

Year	Recognition stated in source
2013	Became a member of the Strategic Alliance for Technological Innovation in the Intelligent Power Transmission and Distribution Equipment Industry.
2014	Recognized as an innovative pilot enterprise. The Zhanjiang Wi-Fi coverage project received a "Model Engineering Project Award" at the 13th China Automation Annual Conference.
2015	Video products were named among the "Top Ten Video Transmission Enterprises" by China Industrial Control and by Huaqiang Security Network. The noise-monitoring project received a "Model Engineering Project Award" at the 14th China Automation Annual Conference.
2016	The video product line was named a "2015-2016 Quality Supplier in China's Security Industry" by Huaqiang Security Network. Charging-pile communication equipment received a "Best Charging Equipment Component Supplier" award.
2016	Received a product gold award at the 7th Guangzhou International New Energy Automobile Industry Exhibition. The organizing committee of the 3rd China Good Wi-Fi event named CAIMORE a "2016 Best Wi-Fi Industry Application Solution Provider".
2018	Industrial routers and DTUs were named among China's top ten brands in their respective categories. Recognized as a key reserve enterprise for public listing in Xiamen.
2019	Recognized as a key reserve enterprise for public listing in Xiamen and Fujian Province. Selected as a DICT solution partner of China Telecom Corporation Limited, Shanghai Branch.
2020	Recognized as a key reserve enterprise for public listing in Xiamen.

Company qualifications

Parameter	Source specification
High-tech enterprise	Recognized nationally as a high-tech enterprise in 2009.
Dual-software enterprise	Recognized nationally as a dual-software enterprise in 2010.
Management systems listed	ISO 9001:2015 quality management; ISO 14001:2015 environmental management; ISO 45001:2018 occupational health and safety management.
Intellectual property	7 patented technologies for device stability and 31 software copyright certificates.
Regional offices	9 regional offices across China, providing nearby customer service.
Registered capital	RMB 20.58 million. The source identifies CAIMORE as a high-tech enterprise supported by Xiamen.

Parameter	Source specification
Industry experience	18 years of industry R&D accumulation and application experience, as stated in the source.

Contact information

Parameter	Source specification
Company	Xiamen CAIMORE Communication Technology Co., Ltd.
Address as printed in source	Units 901 and 904, No. 63 Chengyi North Street, Software Park Phase III, Xiamen, China
Telephone / fax	+86-592-5902655 / +86-592-5975885
Website / email	https://www.caimore.com / caimore@caimore.com

Translation and source review notes

Editorial review

English translation of the supplied Chinese technical document. Repeated page furniture and repeated feature statements are consolidated. Original hardware photographs and drawings are preserved. NEEDS_VERIFICATION identifies missing or inconsistent source data. No device testing, certificate validation or website publication has been performed.

Review checklist

Topic	Review note
Input and port count	6-32 V versus 7-32 V supply; one Ethernet port versus Lan1-lan4 parenthesis. Generic interface options are not a complete fitted-port list.
Center capacity	Eight receiving centers versus up to 256 sending centers; concurrent/maximum meaning needs firmware confirmation.
Acquisition / wiring	Analog/digital-output channel counts and numerical terminal pin definitions are not supplied. Do not transplant the 21F/22F pinout. PWM 0-1 kHz and combined electrical ratings require approved conditions.
Series-specific capability	GPS/BeiDou positioning is stated without numeric performance; Zigbee optional.
Source claims	Performance, certifications, reliability and historical company statements describe the supplied source; they are not independent test results or current certification evidence.
Publication status	English review edition; technical discrepancies require manufacturer approval before a public release.