CM510-13X

Product Introduction

This product adopts ARM9 industrial-grade high-performance embedded processor, takes real-time operating system as the software supporting platform, with super-large memory and embedded TCP/IP protocol stack with independent intellectual property rights. The device supports double-data center backup and multi-data center synchronous receiving data and support sending Alarm SMS; The equipment provides online maintenance technology to keep the data terminal permanently online, keep the data link unblocked at any time, and realize high-speed, stable and reliable TCP/UDP transparent data transmission function.

This product has been widely used in power centralized meter reading, water meter centralized meter reading, heat network monitoring, gas monitoring, water conservancy monitoring, environmental protection testing, meteorological testing, earthquake monitoring, traffic control and other industries.

Model No.

Model No.	Interface Type	Network	RS232 (8,N,1)	RS485	RSTTL	Data Cache
CM3160V	VGA	GPRS	Support	Support	Support	8K
CM510-13F	VGA	4G	Support	Support	Support	8K

Technical Parameters

Device Interface Diagram

VGA Interface DTU Accessories

Power Connector	Serial cable (with RS232 connector and 485 wiring)	Antenna

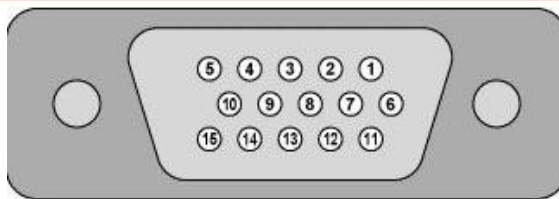| Model NO.	CM3160V/CM510-13F
Cellular Parameters	
Network	GSM/GPRS
Standards and Frequency Bands	Support EGSM900/GSM1800MHz dual-band, GSM800/900/1800/1900MHz quad band optional Support GSM phase 2/2+ Support GPRS multi-slot class 10, class 12 optional
Coding Scheme	CS1 ~ CS4
Communication Bandwidth	Theoretical bandwidth: 171.2Kb/s; practical bandwidth: 100Kbits>X> 20Kbits
Transmit Power	GSM850/900：<33dBm；GSM1800/1900：<30dBm
Receiver Sensitivity	<-107dBm
Cellular Parameters	
Network	LTE-FDD/HSPA+/UMTS/HSDPA/HSUPA/WCDMA/EDGE/GSM
Standards and Frequency Bands	EGSM 900 Power Class 4 2 W, 33 dBm
	GSM 1800 / 1900 Power Class 1 1 W, 30 dBm
	EDGE Power Class for 900MHz Class E21 27 dBm, 0.5 W

	EDGE Power Class for 1800 / 1900MHz Class E21 26 dBm, 0.4 W
	Others. (It depends on area and country.)
Coding Scheme	HSPA+/ DC-HSPA+ / GPRS / EDGE
Communication Bandwidth	100 Mbps DL within 20 MHz bandwidth
	(Peak DL data rate in 10 MHz bandwidth: 70 Mbps (approx.) for Cat 3 device)
Transmit Power	50 Mbps UL within 20 MHz bandwidth
Receiver Sensitivity	<24dBm
Serial Port Parameters	
Data Bit	8
Stop Bit	1/2
Parity Bit	no parity, odd parity, even parity, SPACE and MARK parity
Serial Speed	110bps ~ 115200bps
Flow Control	None flow control, RTS/CTS hard flow control or XON/XOFF soft flow control
Interface	1*RS485 interface or 1* RS232 serial port (support RSTTL)
Interface	
Indicator	Power / ACT / Online
Antenna Interface	Standard SMA female interface,50ohm; optional 3M/5M/10M/15M antenna extension cable, meet the different needs of customers.
UIM Interface	1.8V/3V/5V standard putter user card interface, built-in 15KV ESD protection.
Power Interface	Standard 3-pin power jack.
Enable Pin	Support customer to control power up and down of equipment.
Power Supply	
Supply Voltage	DC6V to 32V. Over-voltage protection. Power reverse protection.
Standard Power Supply	DC9V/1500mA
Average Communication Current	350mA@+9VDC
Communicating Instantaneous Peak Current	1.0A@+9VDC
Standby Current	<34mA@+ 9VDC
Operation System	
OS	Linux
Physical Features	
Shell	Metal shell: metal case, anti-radiation, anti-interference; shell and system security isolation, lightning protection design; meet the power requirements of safety regulations; protection rating IP41; particularly suit for harsh industrial control environments.
Product Dimension	92*62*24 mm(Antenna and fixer are not included)
Package Size	298*226*60mm
Weight	0.41kg
Other Parameters	
Operating Temperature	-25ºC ~ +65ºC
Extended Operating Temperature	-35ºC ~ +75ºC
Storage Temperature	-40ºC ~ +85ºC

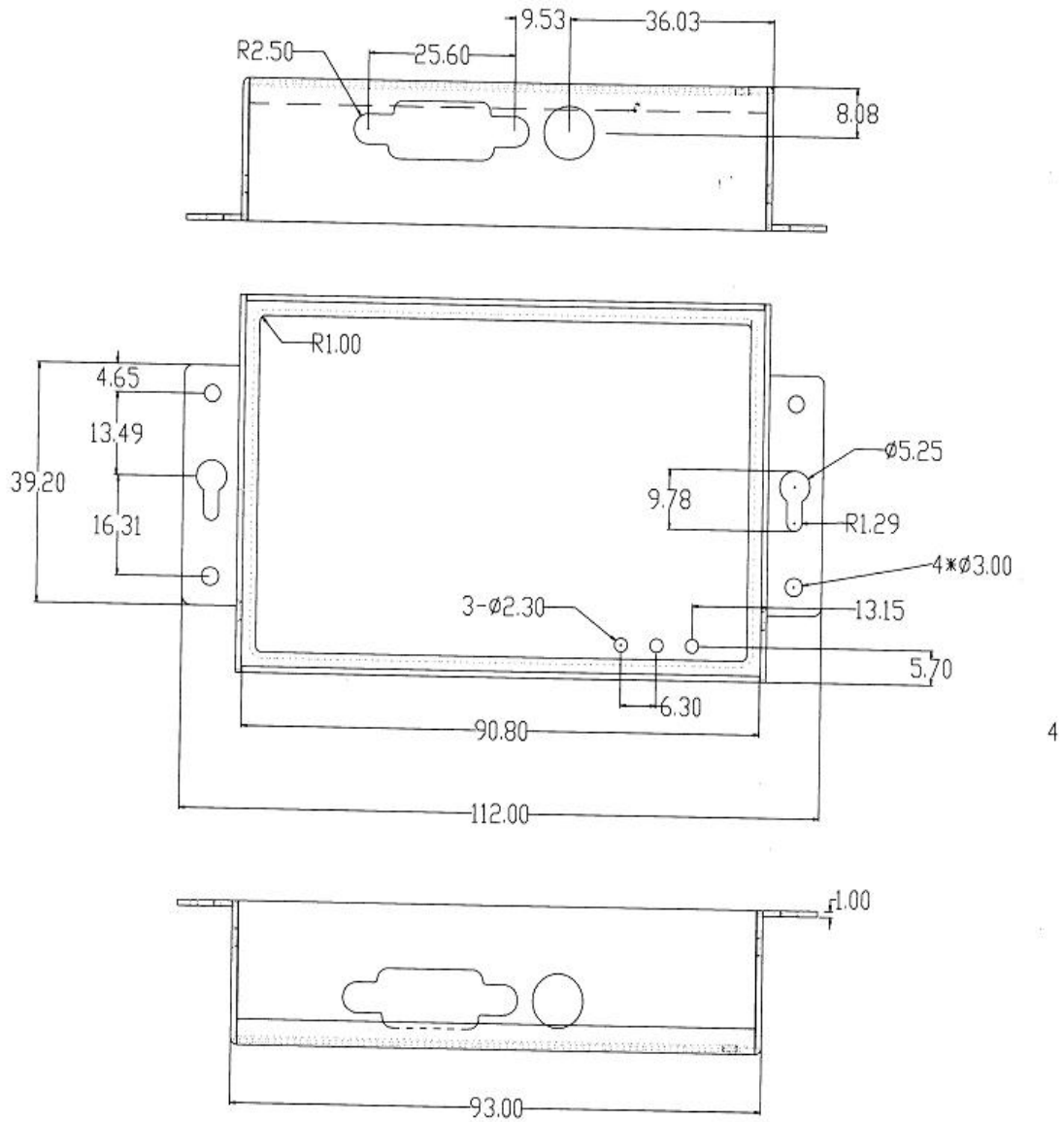| Relative Humidity	95%(No condensation)

VGA Interface Definition

Interface Drawing	

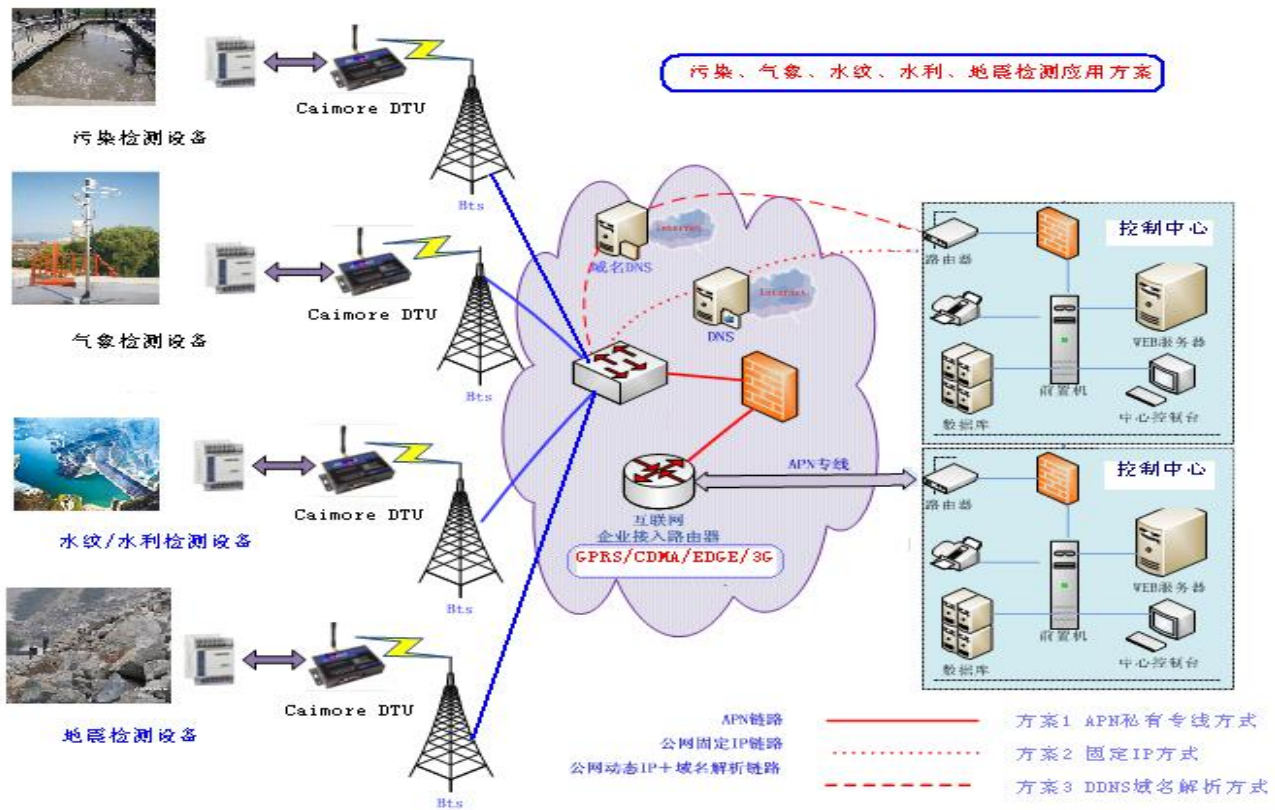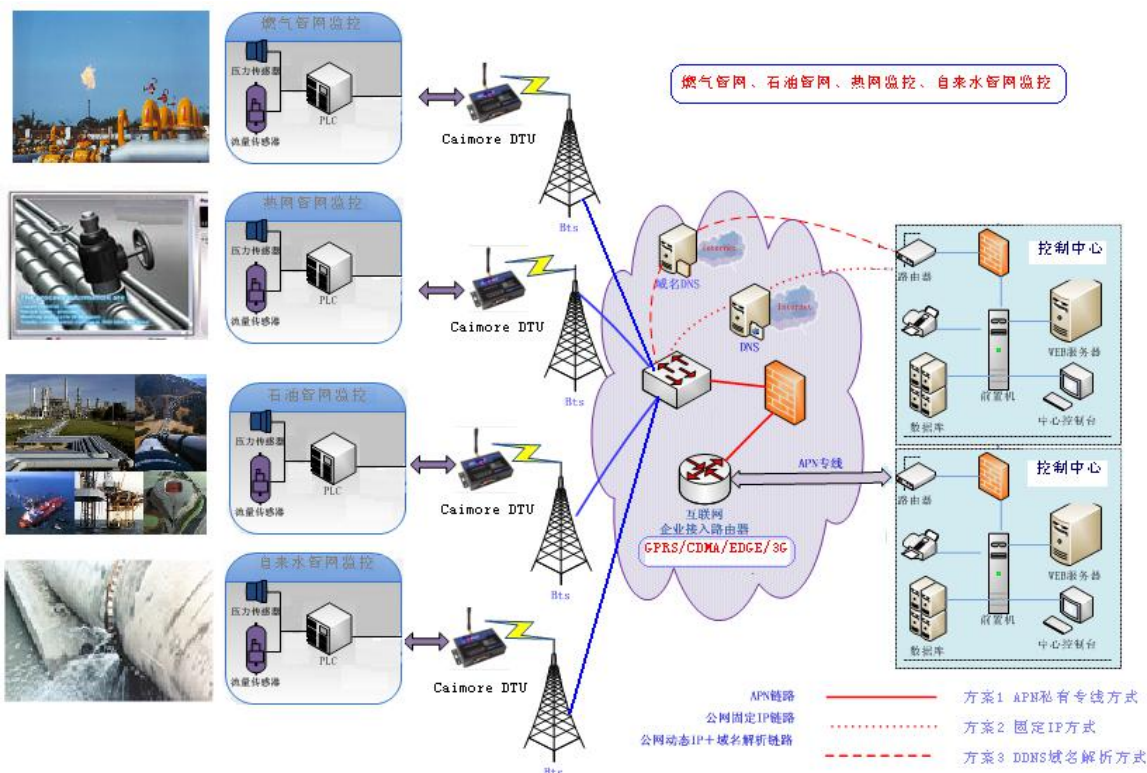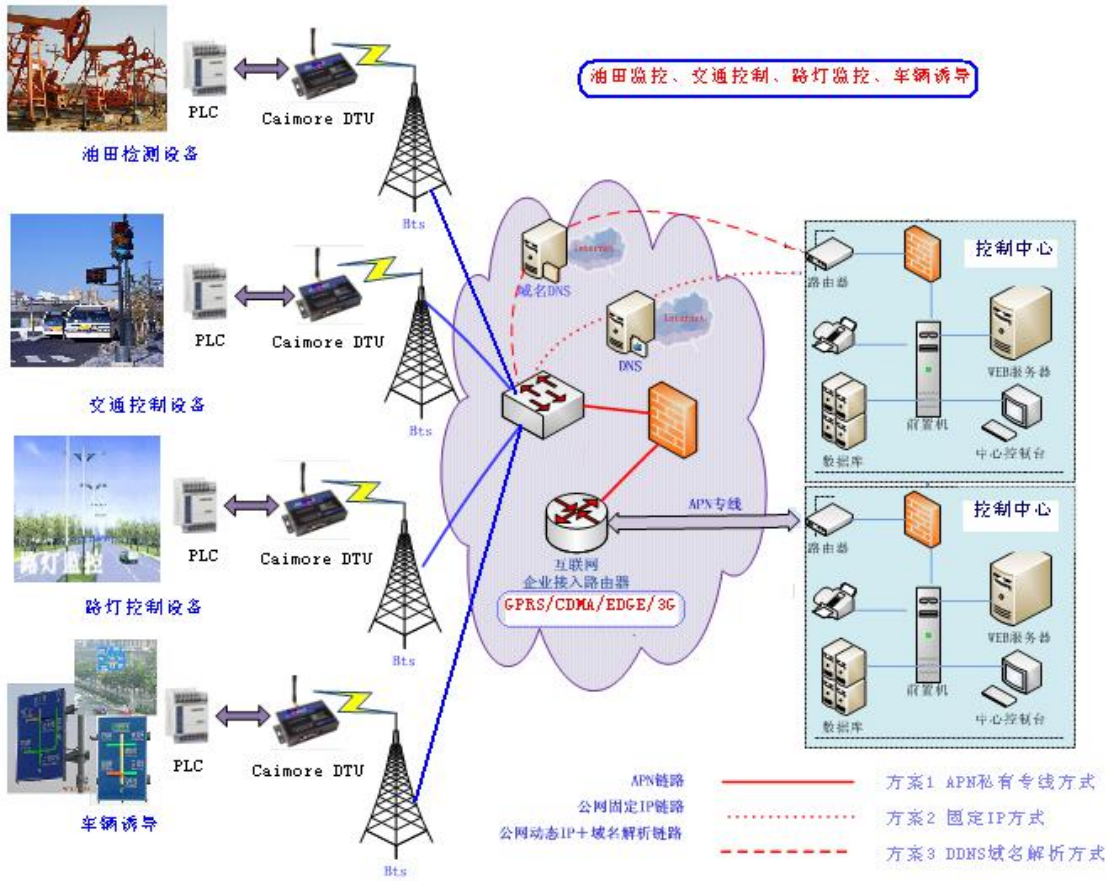| NO.	Function	Name	Default Function	Input / Output	Electrical Characteristics
1	Online Alert	Online	Online prompt pin(after DTU connecting data center, this pin output high level 3.3V, after disconnecting data center, this pin input low level 0v)	Output	Output voltage range: 0V~3.3V
2	RS232	RXD	RS232 interface, receiver pin(if DTU connected to computer ,the date flow is: DTU<-computer)	Input	Standard RS232 voltage
3		TXD	RS232 interface, sender pin(if DTU connected to computer ,the date flow is: DTU->computer)	Output	Standard RS232 voltage
4		NC			
5		GND	RS232 interface, GND pin		
6		None			
7		None			
8		None			
9	Enable Pin	SW	IO port power switch (the power supply of the entire DTU can be switched on and off through this pin level, and DTU can be turned on when -10~0V voltage is connected or the pin is suspended. When the voltage is between 3.3 and 30V, the DTU is shut down).	Input	Input voltage range: -10V~30V
10	RS TTL	TTL_RXD	RSTTL interface, receiver pin(if DTU connected to computer ,the date flow is: DTU->computer)	Input	Input voltage range: 0V~3.3V
11		TTL_TXD	RSTTL interface, sender pin(if DTU connected to computer ,the date flow is: DTU->computer)	Output	Input voltage range: 0V~3.3V
12	RS485	485A	485 interface A		
13		485B	485 interface B		
14		None			
15		None			

Installation Dimension

Product Application

1. Application in detection industry (pollution, weather, watermark, water conservancy, earthquake, etc.)
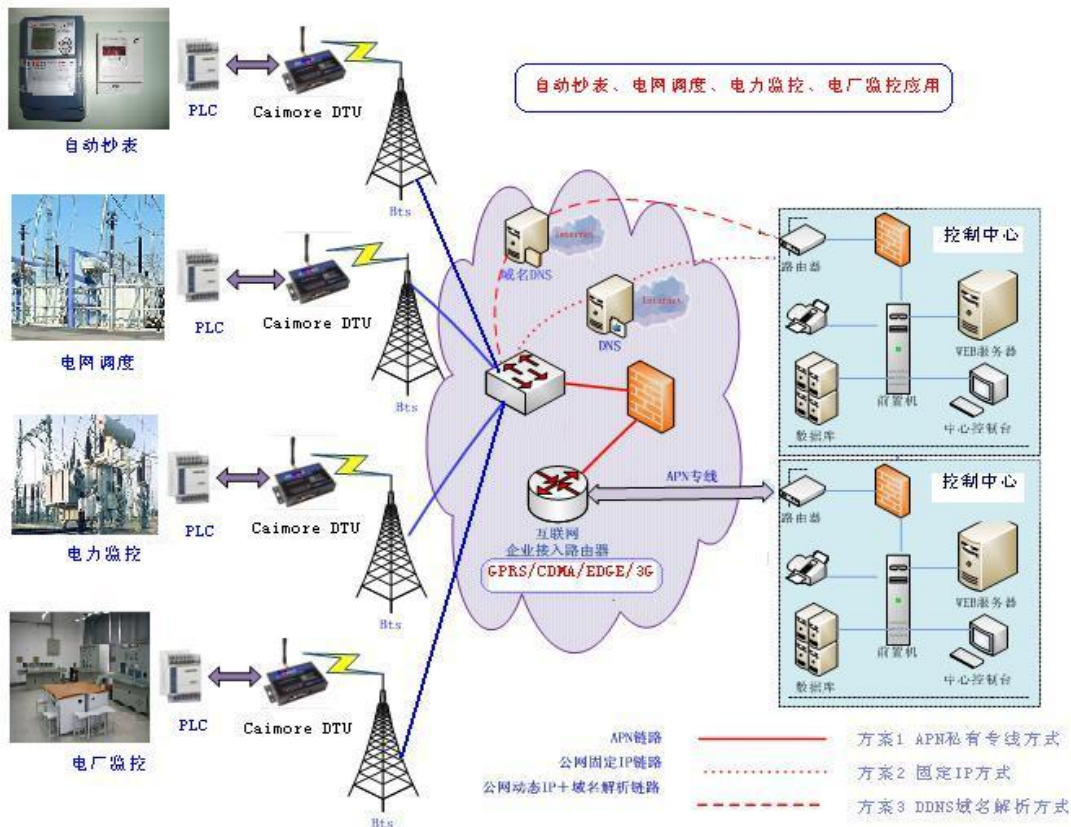

2. Network management monitoring industry application (gas pipe network, oil pipe network, heating network monitoring, tap water pipe network monitoring, etc.)

3.   Oilfield monitoring, street light control, traffic control, vehicle guidance

4. Power industry application cases (distribution monitoring, grid automation, automatic meter reading, grid dispatching)

Typical application

Power Industry
- Street lamp monitoring
- Meter monitoring
- Computer room monitoring
- Automatic remote control system for power distribution network
- Remote meter reading

Transportation Industry
- Traffic instructions
- Vehicle induction
- Highway monitoring
- Traffic light control and photo transmission

Water conservancy industry
- Water conservancy monitoring
- Real-time transmission monitoring of water supply network

Environment, meteorology, oil field and other industries
- Monitoring of key pollution sources
- Environmental monitoring
- Weather monitoring
- Real-time noise monitoring
- Oilfield monitoring
- Heat network monitoring
- Coal monitoring
- Earthquake monitoring
- All kinds of PLC with serial port or 485 interface;
- DTU realizes wireless data transmission

Corporate Qualification

Item	Content
	2011, it was rated as "the best supplier for customer satisfaction in China's industrial control industry"; the company's GPRS DTU product was rated as "innovative product award".
	2012, the company became a member of "China Quality Travel".
	2013, the company became a member of the "Technical Innovation Strategic Alliance of Intelligent Power Transmission and Distribution Equipment Industry".
	2014, it was rated as an innovative pilot enterprise .
	2014, the company's Zhanjiang Wi-Fi coverage project was awarded the "Sample Engineering Award" by the 13th China Automation Annual Conference.
	2015, its video products were rated as "Top Ten Video Transmission Enterprises" by China's industrial control industry.

Corporate Honor	2015, the noise monitoring project was awarded the "Sample Project Award" by the 14th China Automation Annual Conference. 2015, its video products were rated as "Top Ten Video Transmission Enterprises" by Huaqiang Security Network. 2016, the video products was rated by Huaqiang Security Network as "2015-2016 High-quality Supplier in China's Security Industry". 2016, it was rated as the "best supplier of charging equipment parts" by charging pile communication equipment. 2016, won the " Product Gold Award of 2016 7th Guangzhou International New Energy Automobile Industry Exhibition ". 2016, The 3rd China Good Wi-Fi Organizing Committee awarded Caimore "2016 Best Wi-Fi Industry Application Solution Provider". 2018, the company's industrial router was rated as "China's Top Ten Industrial Router Brands", and DTU was rated as "China's DTU Top Ten Brands" 2018, it was rated as a key listed reserve enterprise in Xiamen City. 2019, it was rated as a key listed reserve enterprise in Xiamen City. 2019, it was rated as a key listed reserve enterprise in Fujian Province. 2019, Shortlisted for China Telecom Corporation Limited, DICT solution partner of Shanghai branch 2020, Selected as a key listed reserve company in Xiamen
High-tech Enterprise	2009, it was recognized as a high-tech enterprise by the country
Double-soft Enterprise	2010, it was recognized as a double-soft enterprise by the country
Occupational Health and Safety Management System Certification	ISO9001:2015 quality management system conforms to the standard ISO14001:2015 environmental management system conforms to the standard ISO45001:2018 occupational health and safety management system conforms to the standard
Copyright	The company has 7 patented technology certificates to maintain equipment stability and 31 software copyright certificates.
Offices	Nine regional offices have been established nationwide to provide customers with close and considerate services.
Registered Capital	The company has a registered capital of 20.58 million; it is a key high-tech enterprise supported by Xiamen City.
Historical Accumulation	18 years of industry R&D accumulation and industry application test.