

Arm-based Embedded Computer for Industrial Cellular DTU

- ARM Cortex-A7 @1.1GHz, 64MB RAM +256MB Flash
- 2 x isolated RS232/485 COM ports, 1x 10/100 Mbps Ethernet port
- Supports 4G LTE/3G/2G/NB-IoT and Wi-Fi options connectivity
- Compact enclosure support 35mm DIN-Rail and wall mount installation
- Open Linux OS for secondary development and customization
- Preloaded ElastPro software ready for OT-to-IT integration
- -40 °C to +85 °C operating range, EMI/Surge protection, industrial-grade design



Introduction

Elastel EC212 is an ARM-based Industrial Computer designed as a compact, cost-effective industrial DTU for edge connectivity, data acquisition and communication, and other applications.















It provides 2 × RS485/232, 1 × 10/100 Mbps Ethernet port, 1 × USB, 1 × SD slot, and a Mini PCIe socket for 4G LTE/3G/2G/NB-IoT/Cat M1 and Wi-Fi modules.







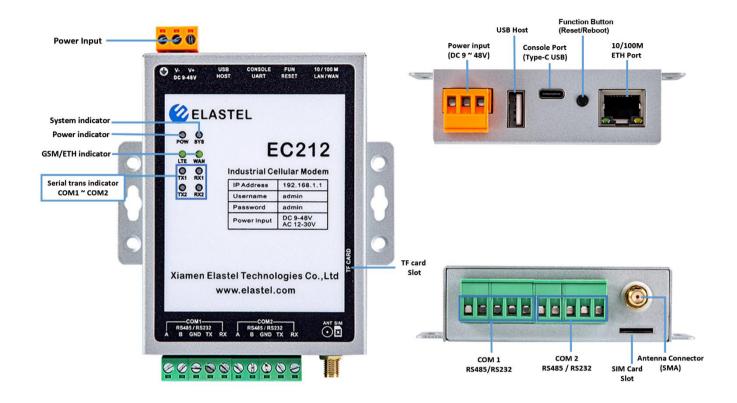


Running on Linux OS, EC212 enables flexibly develop your customized applications. With the preloaded ElastPro software, it supports multiple industrial protocols data collection and conversion, providing a ready-to-use for OT-to-IT integration.

With its full industrial-grade design, ensures this compact DTU reliably working on variety scenarios like Modbus Gateway, Industrial Protocols Conversion, Remote Access management, and other applications.



Appearance



Specifications

System		
CPU	ARM Cortex-A7 @1.1GHz	
RAM	64MB DDR2	
Storage	256MB SLC Nand Flash	
Storage Expansion	1x TF slot (up to 128GB)	
Serial Interface		
Serial Port (Isolated)	2 x RS-485/232	
	Surge 4KV	
Protection	ESD ±15kV IEC61000-4-2 Air Discharge	
	ESD ±15kV Human Body Model	
Ethernet Interface		
Ethernet Port	1 x Auto-sensing 10/100 Mbps Ethernet port	
	Surge 2KV	
Protection	ESD ±15kV IEC61000-4-2 Air Discharge	
	ESD ±15kV Human Body Model	



Industrial Cellular Modem EC212

Wireless Interface	
Wireless Module Slot	1 x miniPCle socket for Cellular module or Wi-Fi module
SIM Format	1x Micro SIM (12mm*15mm)
Antenna Connector	1x SMA Female connector for Cellular or Wi-Fi antenna
Cellular Band Options	NA: 4G LTE-FDD@ B2/B4/B5/B12/B13/B14/B66/B71; 3G WCDMA@ B2/B4/B5; EMEA/APAC: 4G LTE-FDD@ B1/B3/B7/B8/B20/B28A; 4G LTE-TDD@ B38/B40/B41; 3G WCDMA@ B1/B8; 2G GSM@ B3/B8; ANZ/LATAM: 4G LTE-FDD@ B1/B2/B3/B4/B5/B7/B8/B28; 4G LTE-TDD@ B40; 3G WCDMA@ B1/B2/B4/B5/B8; 2G GSM@ B2/B3/B5/B8; Other options please contact Elastel representative.
	Other options please contact Elaster representative. $2.4\sim2.4835 \text{GHz}$ or $5.15\sim5.85 \text{GHz}$
Wi-Fi Band Options	IEEE802.11a/b/g/n/ac
USB Host	
USB 2.0	1 x USB 2.0, support peripheral devices (like USB Wi-Fi adaptor)
Power output	5V@500mA (switch on/off programmable)
Protection	Output Over Load protection ESD ±8kV IEC61000-4-2 Air Discharge ESD ±6kV Human Body Model
Other Interface	
Console Port	1 x UART type-C connector
Button	1x Button for Reset and Reboot
Power Parameters	
Power Input	9 ~ 48 VDC, 12 ~ 30 VAC, recommended DC 12V/1.5A
Power Consumption	Average: 5 W Peak: 10 W
Protection	Overvoltage & polarity reverse protection Surge 4KV ESD ±15kV IEC61000-4-2 Air Discharge ESD ±15kV Human Body Model
Indicators	
LED Indicator	Power x 1, System (programmable) x1, Cellular WAN x1, ETH x1, COM <x> trans x 4 (TX + RX)</x>



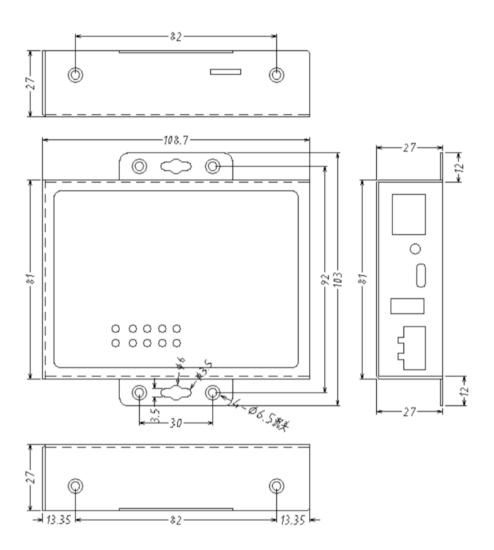
Industrial Cellular Modem EC212

EMAIL: SALES@ELASTEL.COM

Searching network: Slow flashing (200ms ON/1800ms OFF) Idle Status: Slow flashing (1800ms ON/200ms OFF) Transmission: Fast flashing (125ms ON/125ms OFF)		
Buzzer	Cellular LED status	Searching network: Slow flashing (200ms ON/1800ms OFF)
Buzzer		Idle Status: Slow flashing (1800ms ON/200ms OFF)
Reliability RTC Built-in RTC inside with Backup CR2032 button battery Watchdog Built-in WDT inside for auto recovery Physical Characteristics Dimension 108.7mm×103mm×27mm(L×W×H) Housing IP30 Metal Installation DIN-rail mounting Weight 340 g (0.75 lb) Environmental Limits Storage Temperature Ambient Relative Humidity 5 to 95% (non-condensing) Operating Temperature -40 to 85°C (-40 to 185°F) Storage Temperature (package included) -40 to 85°C (-40 to 185°F) CE ENS5032/35 [EC61000-4-2/3/4/5/6] IEC 62388-1 [EC 62381-1 FCC FCC PART 15B ANS 1063 4:2014 RoHS IEC62321-3/4/5/6/7/8 Software Features Formula (EC6231) Pre-installed OS Linux 5.10.160 Modbus RTU/ASCII/TCP Master/Slave, BACnet MSTP/IP IEC104, DNP3, OPC UA, EtherNet/IP, PLC protocols, MQTT, Sparkplug Bdata collect and conversion Powered by ElastPro Secondary Development Python, C, C++, Go Package Contents 1 x EC212 device with Terminal Block preinstalled <td>Transmission: Fast flashing (125ms ON/125ms OFF)</td>		Transmission: Fast flashing (125ms ON/125ms OFF)
RTC Built-in RTC inside with Backup CR2032 button battery Watchdog Built-in WDT inside for auto recovery Physical Characteristics Dimension 108.7mm×103mm×27mm(L×W×H) Housing IP30 Metal Installation DIN-rail mounting Wall mounting Weight 340 g (0.75 lb) Environmental Limits The properature of the	Buzzer	Built-in buzzer x 1, for warning alarm (programmable)
Matchdog	Reliability	
Physical Characteristics Dimension 108.7mm×103mm×27mm(L×W×H) Housing IP30 Metal Installation DIN-rail mounting Weight 340 g (0.75 lb) Environmental Limits Ambient Relative Humidity 5 to 95% (non-condensing) Operating Temperature -40 to 85°C (-40 to 185°F) Storage Temperature (package included) -40 to 85°C (-40 to 185°F) CE EN55032/35 IEC61000-4-2/3/4/5/6 IEC 62368-1 IEC 62368-1 IEC 62331-1 FCC PART 15B ANS1C63.4:2014 ANS1C63.4:2014 RoHS IEC62321-3/4/5/6/7/8 Software Features Pre-installed OS Pre-installed OS Linux 5.10.160 Modbus RTU/ASCII/TCP Master/Slave, BACnet MSTP/IP IEC104, DNP3, OPC UA, EtherNet/IP, PLC protocols, MCTT, Sparkplug Bdata collect and conversion Powered by ElastPro Secondary Development Python, C, C++, Go Package Contents Device 1 x EC212 device with Terminal Block preinstalled Antenna Mag-mount Antenna (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. <td>RTC</td> <td>Built-in RTC inside with Backup CR2032 button battery</td>	RTC	Built-in RTC inside with Backup CR2032 button battery
Dimension 108.7mm×103mm×27mm(L×W×H) Housing IP30 Metal Installation DIN-rail mounting Wall mounting Weight 340 g (0.75 lb) Environmental Limits Ambient Relative Humidity 5 to 95% (non-condensing) Operating Temperature -40 to 85°C (-40 to 185°F) Storage Temperature (package included) -40 to 85°C (-40 to 185°F) Certifications CE EN55032/35 IEC61000-4-2/3/4/5/6 IEC 62368-1 IEC 62311 FCC FCC PART 15B ANS1C63.4:2014 ROHS IEC62321-3/4/5/6/7/8 Software Features Pre-installed OS Linux 5.10.160 Modbus RTU/ASCII/TCP Master/Slave, BACnet MSTP/IP IEC104, DNP3, OPC UA, EtherNet/IP, PLC protocols, MQTT, Sparkplug Bdata collect and conversion Powered by ElastPro Secondary Development Python, C, C++, Go Package Contents 1 x EC212 device with Terminal Block preinstalled Antenna Mag-mount Antenna (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit	Watchdog	Built-in WDT inside for auto recovery
Housing	Physical Characteristics	
Installation	Dimension	108.7mm×103mm×27mm(L×W×H)
Secondary Development Secondary Development Secondary Development Python, C, C++, Go Package Contents Secondary Development Python, C, C++, Go Package Contents Secondary Development Sto 210 (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. Sto 210 (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. Sto 95% (non-condensing) Sto 95% (non-condensin	Housing	IP30 Metal
Weight 340 g (0.75 lb) Environmental Limits Ambient Relative Humidity 5 to 95% (non-condensing) Operating Temperature -40 to 85°C (-40 to 185°F) Storage Temperature (package included) -40 to 85°C (-40 to 185°F) Certifications EN55032/35 IEC61000-4-2/3/4/5/6 IEC 62368-1 IEC 62368-1 IEC 62311 FCC FCC PART 15B ANS1C63.4:2014 RoHS IEC62321-3/4/5/6/7/8 Software Features Pre-installed OS Linux 5.10.160 OT-to-IT Integration Modbus RTU/ASCII/TCP Master/Slave, BACnet MSTP/IP IEC104, DNP3, OPC UA, EtherNet/IP, PLC protocols, MQTT, Sparkplug Bdata collect and conversion Powered by ElastPro Secondary Development Python, C, C++, Go Package Contents Device 1 x EC212 device with Terminal Block preinstalled Antenna Mag-mount Antenna (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit		DIN-rail mounting
Environmental Limits Ambient Relative Humidity 5 to 95% (non-condensing) Operating Temperature -40 to 85°C (-40 to 185°F) Storage Temperature (package included) -40 to 85°C (-40 to 185°F) Certifications EN55032/35 IEC 61000-4-2/3/4/5/6 IEC 62368-1 IEC 62368-1 IEC 62311 FCC FCC PART 15B ANS1C63.4:2014 RoHS IEC62321-3/4/5/6/7/8 Software Features Pre-installed OS Linux 5.10.160 Modbus RTU/ASCII/TCP Master/Slave, BACnet MSTP/IP IEC104, DNP3, OPC UA, EtherNet/IP, PLC protocols, MQTT, Sparkplug Bdata collect and conversion Powered by ElastPro Secondary Development Python, C, C++, Go Package Contents Device 1 x EC212 device with Terminal Block preinstalled Antenna Mag-mount Antenna (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit		Wall mounting
Ambient Relative Humidity 5 to 95% (non-condensing) Operating Temperature -40 to 85°C (-40 to 185°F) Storage Temperature (package included) -40 to 85°C (-40 to 185°F) Certifications EN55032/35 EC61000-4-2/3/4/5/6 IEC 62368-1 IEC 62311 FCC FCC PART 15B ANS1C63.4:2014 RoHS IEC62321-3/4/5/6/7/8 Software Features Pre-installed OS Linux 5.10.160 Modbus RTU/ASCII/TCP Master/Slave, BACnet MSTP/IP IEC104, DNP3, OPC UA, EtherNet/IP, PLC protocols, MQTT, Sparkplug Bdata collect and conversion Powered by ElastPro Secondary Development Python, C, C++, Go Package Contents Device 1 x EC212 device with Terminal Block preinstalled Antenna Mag-mount Antenna (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit	Weight	340 g (0.75 lb)
Operating Temperature -40 to 85°C (-40 to 185°F) Storage Temperature (package included) -40 to 85°C (-40 to 185°F) Certifications EN55032/35 IEC61000-4-2/3/4/5/6 IEC 62368-1 IEC 62368-1 IEC 62311 FCC FC PART 15B ANS1C63.4:2014 IEC62321-3/4/5/6/7/8 Software Features Pre-installed OS Linux 5.10.160 Modbus RTU/ASCII/TCP Master/Slave, BACnet MSTP/IP IEC104, DNP3, OPC UA, EtherNet/IP, PLC protocols, MQTT, Sparkplug Bdata collect and conversion Powered by ElastPro Secondary Development Python, C, C++, Go Package Contents Device 1 x EC212 device with Terminal Block preinstalled Antenna Mag-mount Antenna (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit	Environmental Limits	
Storage Temperature (package included)	Ambient Relative Humidity	5 to 95% (non-condensing)
Certifications	Operating Temperature	-40 to 85°C (-40 to 185°F)
Certifications EN55032/35 IEC61000-4-2/3/4/5/6 IEC 62368-1 IEC 62368-1 IEC 62311 FCC FCC PART 15B ANS1C63.4:2014 RoHS IEC62321-3/4/5/6/7/8 Software Features Pre-installed OS Linux 5.10.160 Modbus RTU/ASCII/TCP Master/Slave, BACnet MSTP/IP IEC104, DNP3, OPC UA, EtherNet/IP, PLC protocols, MQTT, Sparkplug Bdata collect and conversion Powered by ElastPro Secondary Development Python, C, C++, Go Package Contents Device 1 x EC212 device with Terminal Block preinstalled Antenna Mag-mount Antenna (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit	Storage Temperature (package	40 to 95°C / 40 to 195°E\
CE EN55032/35 IEC61000-4-2/3/4/5/6 IEC 62368-1 IEC 62368-1 IEC 62311 FCC FCC PART 15B ANS1C63.4:2014 RoHS IEC62321-3/4/5/6/7/8 Software Features Pre-installed OS Linux 5.10.160 Modbus RTU/ASCII/TCP Master/Slave, BACnet MSTP/IP IEC104, DNP3, OPC UA, EtherNet/IP, PLC protocols, MQTT, Sparkplug Bdata collect and conversion Powered by ElastPro Secondary Development Python, C, C++, Go Package Contents Device 1 x EC212 device with Terminal Block preinstalled Antenna Mag-mount Antenna (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit	included)	-40 to 83 C (-40 to 183 F)
IEC61000-4-2/3/4/5/6 IEC 62368-1 IEC 62368-1 IEC 62311	Certifications	
CE IEC 62368-1 IEC 62311 FCC FCC PART 15B ANS1C63.4:2014 RoHS IEC62321-3/4/5/6/7/8 Software Features Pre-installed OS Linux 5.10.160 OT-to-IT Integration Modbus RTU/ASCII/TCP Master/Slave, BACnet MSTP/IP IEC104, DNP3, OPC UA, EtherNet/IP, PLC protocols, MQTT, Sparkplug Bdata collect and conversion Powered by ElastPro Secondary Development Python, C, C++, Go Package Contents Device 1 x EC212 device with Terminal Block preinstalled Antenna Mag-mount Antenna (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit		EN55032/35
IEC 62368-1 IEC 62311 FCC PART 15B ANS1C63.4:2014 RoHS IEC62321-3/4/5/6/7/8 Software Features Pre-installed OS Linux 5.10.160 Modbus RTU/ASCII/TCP Master/Slave, BACnet MSTP/IP IEC104, DNP3, OPC UA, EtherNet/IP, PLC protocols, MQTT, Sparkplug Bdata collect and conversion Powered by ElastPro Secondary Development Python, C, C++, Go Package Contents Device 1 x EC212 device with Terminal Block preinstalled Antenna Mag-mount Antenna (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit	CE	IEC61000-4-2/3/4/5/6
FCC PART 15B ANS1C63.4:2014 RoHS IEC62321-3/4/5/6/7/8 Software Features Pre-installed OS Linux 5.10.160 OT-to-IT Integration IEC104, DNP3, OPC UA, EtherNet/IP, PLC protocols, MQTT, Sparkplug Bdata collect and conversion Powered by ElastPro Secondary Development Python, C, C++, Go Package Contents Device 1 x EC212 device with Terminal Block preinstalled Antenna Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit	GE .	IEC 62368-1
ROHS IEC62321-3/4/5/6/7/8 Software Features Pre-installed OS Linux 5.10.160 OT-to-IT Integration IEC104, DNP3, OPC UA, EtherNet/IP, PLC protocols, MQTT, Sparkplug Bdata collect and conversion Powered by ElastPro Secondary Development Python, C, C++, Go Package Contents Device 1 x EC212 device with Terminal Block preinstalled Antenna Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit		IEC 62311
ANS1C63.4:2014 RoHS IEC62321-3/4/5/6/7/8 Software Features Pre-installed OS Linux 5.10.160 Modbus RTU/ASCII/TCP Master/Slave, BACnet MSTP/IP IEC104, DNP3, OPC UA, EtherNet/IP, PLC protocols, MQTT, Sparkplug Bdata collect and conversion Powered by ElastPro Secondary Development Python, C, C++, Go Package Contents Device 1 x EC212 device with Terminal Block preinstalled Antenna Mag-mount Antenna (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit	ECC	FCC PART 15B
Software Features Pre-installed OS Linux 5.10.160 Modbus RTU/ASCII/TCP Master/Slave, BACnet MSTP/IP IEC104, DNP3, OPC UA, EtherNet/IP, PLC protocols, MQTT, Sparkplug Bdata collect and conversion Powered by ElastPro Secondary Development Python, C, C++, Go Package Contents Device 1 x EC212 device with Terminal Block preinstalled Antenna Mag-mount Antenna (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit	FCC	ANS1C63.4:2014
Pre-installed OS Linux 5.10.160 Modbus RTU/ASCII/TCP Master/Slave, BACnet MSTP/IP IEC104, DNP3, OPC UA, EtherNet/IP, PLC protocols, MQTT, Sparkplug Bdata collect and conversion Powered by ElastPro Secondary Development Python, C, C++, Go Package Contents Device 1 x EC212 device with Terminal Block preinstalled Antenna Mag-mount Antenna (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit	RoHS	IEC62321-3/4/5/6/7/8
Modbus RTU/ASCII/TCP Master/Slave, BACnet MSTP/IP IEC104, DNP3, OPC UA, EtherNet/IP, PLC protocols, MQTT, Sparkplug Bdata collect and conversion Powered by ElastPro Secondary Development Python, C, C++, Go Package Contents Device 1 x EC212 device with Terminal Block preinstalled Mag-mount Antenna (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit	Software Features	
OT-to-IT Integration IEC104, DNP3, OPC UA, EtherNet/IP, PLC protocols, MQTT, Sparkplug Bdata collect and conversion Powered by ElastPro Secondary Development Python, C, C++, Go Package Contents Device 1 x EC212 device with Terminal Block preinstalled Mag-mount Antenna (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit	Pre-installed OS	Linux 5.10.160
MQTT, Sparkplug Bdata collect and conversion Powered by ElastPro Secondary Development Python, C, C++, Go Package Contents Device 1 x EC212 device with Terminal Block preinstalled Antenna Mag-mount Antenna (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit	OT-to-IT Integration	Modbus RTU/ASCII/TCP Master/Slave, BACnet MSTP/IP
Secondary Development Python, C, C++, Go Package Contents Device 1 x EC212 device with Terminal Block preinstalled Antenna Mag-mount Antenna (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit		IEC104, DNP3, OPC UA, EtherNet/IP, PLC protocols,
Package Contents Device 1 x EC212 device with Terminal Block preinstalled Mag-mount Antenna (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit		MQTT, Sparkplug Bdata collect and conversion Powered by ElastPro
Device 1 x EC212 device with Terminal Block preinstalled Mag-mount Antenna (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit	Secondary Development	Python, C, C++, Go
Antenna Mag-mount Antenna (SMA Male, 1 meter, 12dBi). Only for cellular or Wi-Fi version. 1 x DIN-rail kit	Package Contents	
Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit	Device	1 x EC212 device with Terminal Block preinstalled
Only for cellular or Wi-Fi version. Installation Kit 1 x DIN-rail kit	Antenna	Mag-mount Antenna (SMA Male, 1 meter, 12dBi).
		Only for cellular or Wi-Fi version.
Warranty Period 1 year	Installation Kit	1 x DIN-rail kit
r year	Warranty Period	1 year



Dimensions



About Elastel

Elastel is a technology-driven company providing IIoT products and services globally. With 10+ years of industry experience, Elastel has developed series Open, High-performance, Reliable, and Easy-touse IIoT devices like Industrial Raspberry Pi, Arm-based industrial computer for IIoT Gateway, Industrial Cellular Router, etc. Besides, to simplify users IIoT solutions deployment, Elastel also provide software services including the IIoT Gateway software "ElastPro" to easy data collection and communication, and the "ThingsWing" SaaS platform for secure remote access and management.

Elastel leverages its independent R&D innovation to pursue its core mission: "Streamline IoT communication development, shorten and simplify the process of system implementation" The company's high-quality industrial Computer & Gateway hardware and software service enhance the IoT communication efficiency and competitive advantages of its customers all over the world.



EMAIL: SALES@ELASTEL.COM



Copyright

Copyright © 2025 ELASTEL (XIAMEN) TECHNOLOGIES CO., LTD.

Copyright © 2025 Elastel (Xiamen) Technologies CO., LTD. All rights reserved. No parts of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, photocopying, recording, or otherwise, for any purpose, without the express written permission of Elastel (Xiamen) Technologies CO., LTD.

Technical Support

Send email to Elastel Support center (support@elastel.com) for firmware upgrade, product documents, FAQ, technical support and more.