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Elecnova

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Sfere,connecting possible, delivering reliable



**WIRELESS
TRANSMISSION**

JIANGSU SFERE
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www.sfere-elec.net



ELECNova WIRELESS TRANSMISSION

Sfere Electric is pioneering for the development of a series of wireless communication products by deep thinking about the future of industry, focusing on the industrial IOT and smart grid. The product portfolio contains the independent wireless communication modules, splicing wireless communication modules, integrated wireless communication intelligent measurement and control devices and wireless gateways, etc. Which fully supports for LoRa, NB-IoT, GRPS, 4G, WiFi and other wireless communication interfaces based on including LoRaWAN, SNMP, SMTP, IEC101/104, DLT645, MQTT and other communication protocols. The product adopts 35mm standard rail installation and AC/DC 80-270V or DC 18-36V power supply modes. It's suitable for the transmission of power grid data for various new projects and reconstruction projects by its compact design, easy installation, reliable data transmission and cost-saving.

CONTENTS

INDEPENDENT WIRELESS COMMUNICATION MODULE

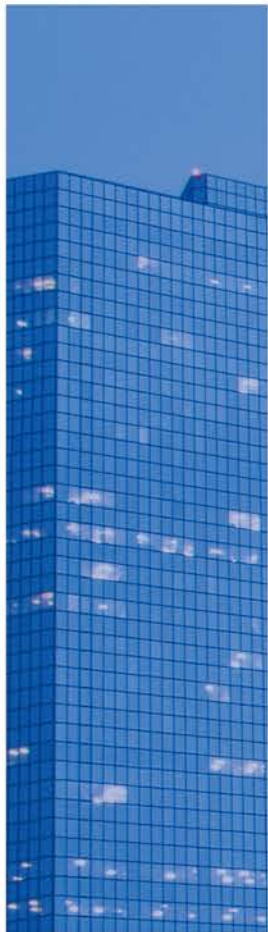
PD194Z-C Series	RS485 To LoRa
SC4	RS485 To GPRS
SC6	RS485 To NB-IoT

WIRELESS GATEWAY

S15-X-L

RELATED WIRELESS PRODUCTS

Splicing wireless module	
EC2	LoRa module
EC4	GPRS module
EC6	NB-IoT module
Intelligent multi-functional power meter	
PD194Z-E14C/D	GPRS/NB-IoT
PD194Z-E20C/D	GPRS/NB-IoT



PD194Z-C Series

RS485 To LoRa Module



Long distance



Anti-interference



Hardware watchdog



OVERVIEW

The PD194Z-C series wireless communication module is a LoRa and RS485 transparent transmission module, which supports the 470, 868, and 915MHz frequency bands. The maximum transmission distance of the basic model can reach 5 kilometers (empty space, 100mW), and the maximum transmission distance of the enhanced model can reach 10 kilometers (empty space, 1W) with strong anti-interference ability and high signal sensitivity.



FEATURES

- Long transmission distance
- High receiving sensitivities
- High protection class
- Strong anti-interference ability
- Hardware watchdog, never crash



APPLICATION

- Intelligent meter data acquisition
- Intelligent power monitoring
- Intelligent agriculture



TECHNICAL PARAMETERS


Item		Parameter		
		PD194Z-C10	PD194Z-C10A	PD194Z-C11
Wireless interface	Transmitting and reception frequency	470-510,863-870,902-928MHz		470-510MHz
	Modulation	LoRa		
	Transmission power	100mW	100mW-1W	100mW
	Reception sensitivity	-139dBm		
RS485 interface	Communication method	N81/E81/O81/N82		
	Communication baud rate	2400-19200bps		
Power supply	Voltage range	AC 80-270V		DC 18-36V
	Power consumption	<2W		<4W
Operation environment		-25-70 C , ≤93%RH		
Storage environment		-40-85 C , ≤93%RH		

SC4


RS485 To GPRS Module



Quad-band universal



IAP upgrade



Dropped reconnection



OVERVIEW

The SC4 wireless communication module is a GPRS and RS485 transparent transmission module, which supports 850/900/1800/1900MHz frequency band. It supports domain name access, and automatically reconnect when dropped. SC4 can be set by tools for parameter setting, status monitoring, and IAP upgrade.



FEATURES

- Quad-band universal
- Industrial module,stable performance
- KEEP-ALIVE system,stay connected for a long time
- Support for setting up ConnReg Data/ Beat Data
- Automatically restart when no data is transmitted for a long time
- Completely transparent transmission
- Json command configuration



APPLICATION

- Intelligent meter data acquisition
- Intelligent power monitoring
- Intelligent agriculture
- Internet of Things



TECHNICAL PARAMETERS

Item		Parameter
Wireless interface	Transmitting and reception methods	GPRS
	Frequency band	850/900/1800/1900MHz
	Antenna interface	50Ω/SMA(female)
	SIM card voltage	3V、 1.8V
	Transmission power	GSM900 class4(2w),DCS1800 class1(1W)
	Network protocol	TCP
	Network cache	Transmit 4Kbyte,receive 4Kbyte
	Network cache	Transmit 4Kbyte,receive 4Kbyte
RS485 interface	Communication method	N81/E81/O81/N82
	Communication baud rate	2400-19200bps
Power supply	Voltage range	AC 80-270V
Operation environment		-25-70 C , ≤93%RH
Storage environment		-40-85 C , ≤93%RH

SC6

RS485 To NB-IoT Module

Strong links

High coverage

Low-power



OVERVIEW

SC6 wireless communication module is transparent transmission module of NB-IoT and RS485, supporting frequency band B3/B5/B8. It supports domain access, and disconnection and reconnection. SC6 can be set with tools for parameter setting, status monitoring, and IAP upgrade.



FEATURES

- Multiband support
- Support for setting up ConnReg Data/ Beat Data
- TCP transparent transmission
- Low-cost networking



APPLICATION

- Intelligent meter data acquisition
- Intelligent power monitoring
- Intelligent agriculture
- Internet of Things



TECHNICAL PARAMETERS

Item		Parameter
Wireless interface	Transmitting and receiving	NB-IoT
	Frequency band	B1/B2/B3/B5/B8/B20/B28, default B3/B5/B8
	Antenna interface	50Ω/SMA(Female head)
	SIM card voltage	3V、1.8V
	Transmission power	23dBm
	Receiving sensitivity	-129dBm
	Network protocol	TCP
	Network cache	Transmit 460byte, receive 460byte
RS485 interface	Communication	N81/E81/O81/N82
	Communication baud rate	2400-19200bps
Power supply	Voltage range	AC 80-270V
Working environment		-25-70℃, ≤93%RH
Storage environment		-40-85℃, ≤93%RH

S15-X-L

Wireless gateway



Multi-protocol support



Multiple data point acquisition



Online device numerical display



OVERVIEW

S15-X-L gateway is a small gateway device that can collect multiple protocol bus devices and upload data to cloud platform or local HMI display. Its supporting SmarHMI tool supports configuration of the connected devices and monitoring their data or status. The product is mainly used to collect intelligent measurement and control, power quality, electrical safety product data, communicate with the monitoring system through the Ethernet port, implement wireless networking through the LoRa interface, and upload to the HMI platform through 2G, 4G, NB-IoT wireless methods.



FEATURES

- Manual message debugging.
- Online device numerical display.
- Collect more than 4000 data points.
- Connected device status monitoring.
- Firmware update available via Ethernet.
- Supports MODBUS-RTU, MODBUS-TCP,DL/T645, MQTT and other protocols.



APPLICATION

- Data acquisition for intelligent measurement and control
- Power quality
- Electrical safety products



TECHNICAL PARAMETERS

		S15-F	S15-T	S15-G	S15-N	S15-X*-L
communication interface	RS485	■	■	■	■	■
	ENET	■	■	■	■	■
	NB-IoT	-	-	-	■	-
	WiFi	■	-	-	-	-
	2G	-	-	■	-	-
	LoRa	-	-	-	-	■
	4G	-	■	-	-	-
	Communication protocol	Modbus TCP/IP, Modbus RTU, MQTT, etc.				
Hardware	RS485	2				
	Ethernet	2 RJ45(100M)				
	Working voltage	AC220V±20V 50Hz				
	Standard	IEEE 802.3				
Working environment	Working temperature	-25...+70 C ,≤95%RH				
	Storage temperature	-40...+85 C ,≤95%RH				
	Protection level	IP20				

* X=F(WiFi),T(4G),G(2G),N(NB-IoT), choose only one

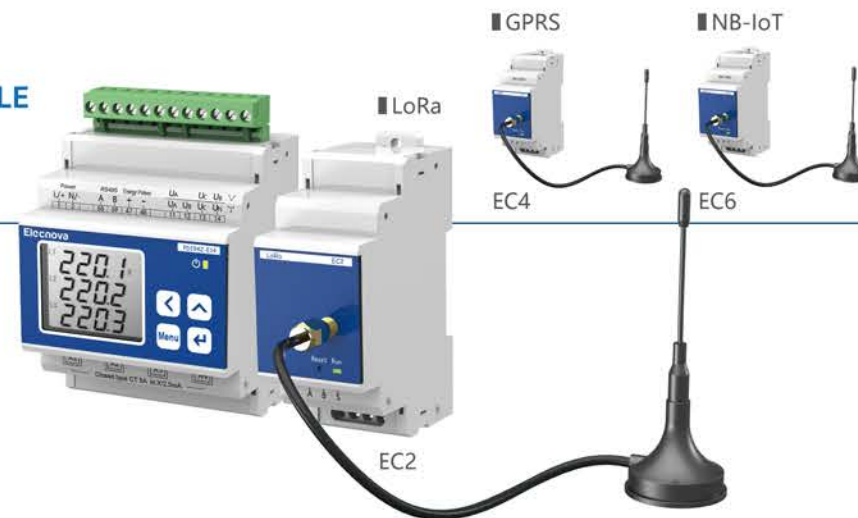
RELATED WIRELESS PRODUCTS



SPLICING WIRELESS MODULE

PD194Z-E14

Multi-circuit
Harmonics
Modbus Interface
Energy Accuracy 0.5S
Pulse Output



EC2 (LoRa), EC4 (GPRS), EC6 (NB-IoT) modules can be used in combination with the multi-functional power meter PD194Z-E14 or PD194Z-E20 series to realize wireless transmission of grid data.



INTELLIGENT MULTI-FUNCTIONAL POWER METER

PD194Z-E20C/D

Harmonics
Modbus Interface
Energy Accuracy 0.5S
Pulse Output
GPRS/NB-IoT



Rail-mounted intelligent multi-functional power meter PD194Z-E14C (GPRS), PD194Z-E14D (NB-IoT), PD194Z-E20C (GPRS), PD194Z-E20D (NB-IoT) have comprehensive power parameter measurement, complete power metering, and power quality analysis functions. The built-in wireless module enables wireless transmission of the power grid data.

■ Welcome to visit www.sfero-elec.net or call +86-510-86199063 for more information.

ELECNOVA LORA SOLUTION

- Wireless transparent transmission, reduce wiring trouble
- Intelligent power monitoring, cost optimization
- Cloud access, data easy to analyze and use
- Flexible networking mode

