

Smallest Powerful Flexible



Patented Product

Ethernet patent No. 201820871290.0

GPRS Patent No. 201820871682.7

WiFi Patent No. 201820871611.7

Products

Elfin-EE10 (RS232 to Ethernet)

Elfin-EE11 (RS485 to Ethernet)

Elfin-EW10 (RS232 to WiFi)

Elfin-EW11 (RS485 to WiFi)

Elfin-EG10 (RS232 to GPRS)

Elfin-EG11 (RS485 to GPRS)



Rear view without antenna
or built-in antenna



Rear view of external
SMA antenna

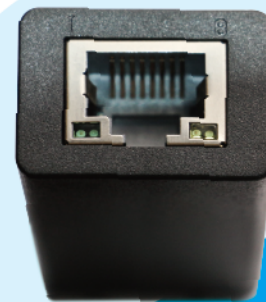
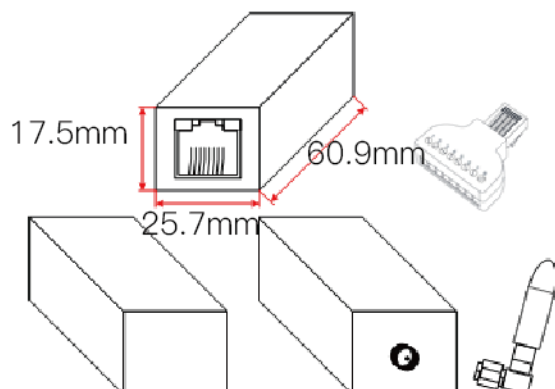


Accessory : GPRS
external antenna



Accessory (optional): RJ45
crystal head to 8pin terminal

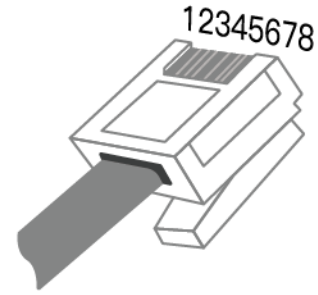
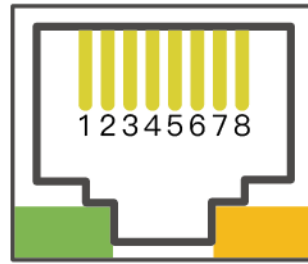
Dimensions



Standard RJ45 network interface

1. Network communication (Ethernet cable is valid for 4 lines)
2. Serial communication (three lines of serial communication line are valid and shared with the power supply)
3. Power supply interface (2 lines of power supply cable are valid)

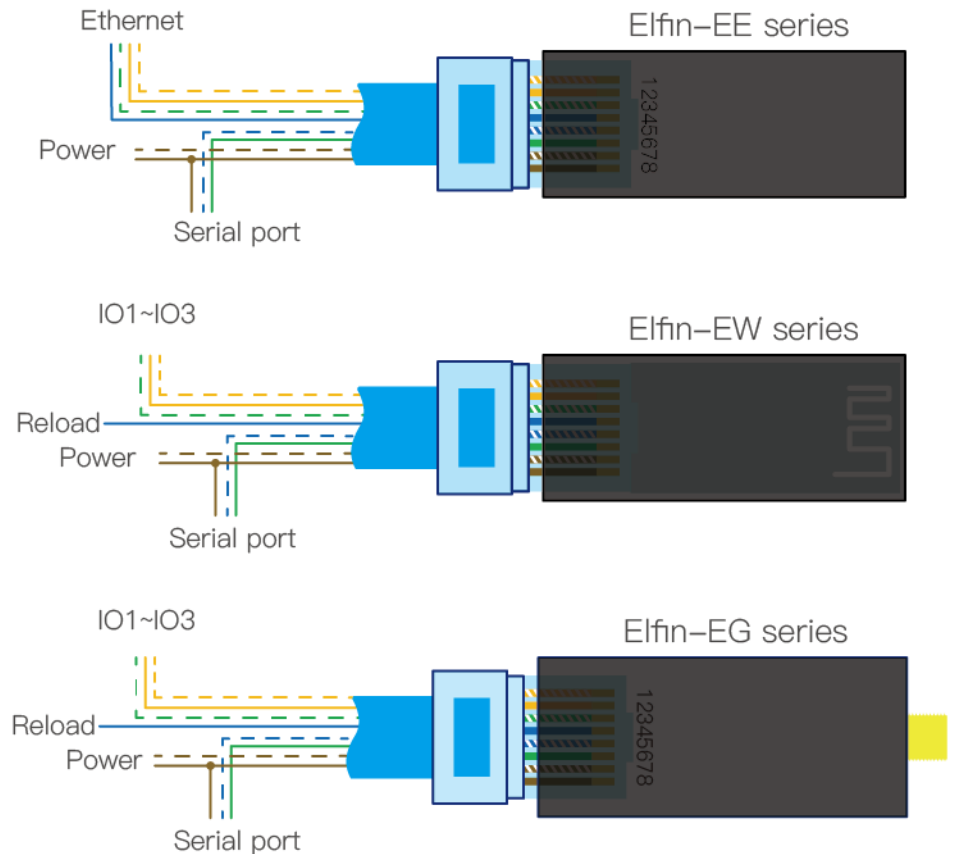
Pin Function Diagram



RJ45 network port pin and LED indicator function explanation

Pin No.	1	2	3	4	5	6	7	8	Green		Yellow
									On	Flash	Flash
EE10	T+	T-	R+	R-	TXD	RXD	VCC	GND	PWR	NET	Active
EE11	T+	T-	R+	R-	A+	B-	VCC	GND	PWR	NET	Active
EW10				Reload	TXD	RXD	VCC	GND	PWR	NET	Active
EW11				Reload	A+	B-	VCC	GND	PWR	NET	Active
EG10				Reload	TXD	RXD	VCC	GND	PWR	NET	Active
EG11				Reload	A+	B-	VCC	GND	PWR	NET	Active

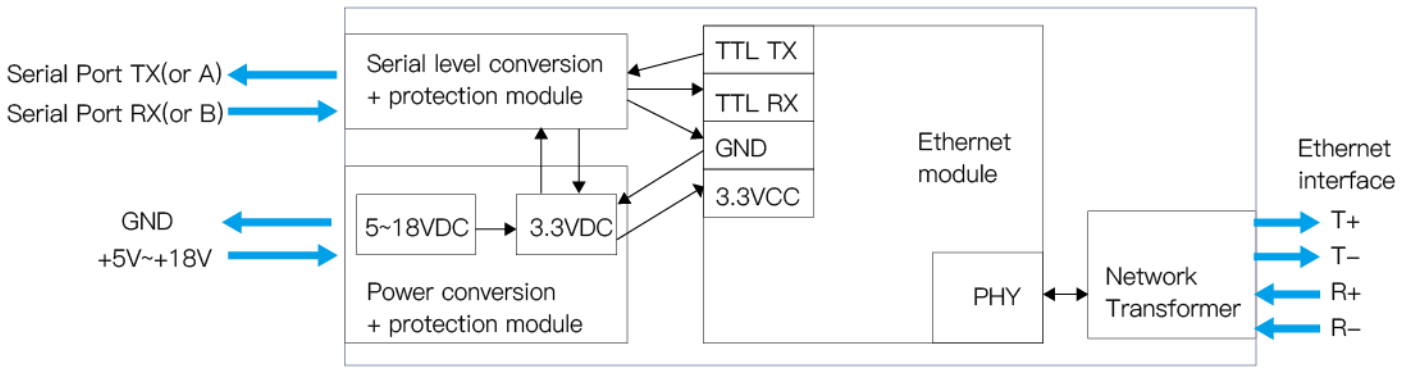
Product Connection Diagram



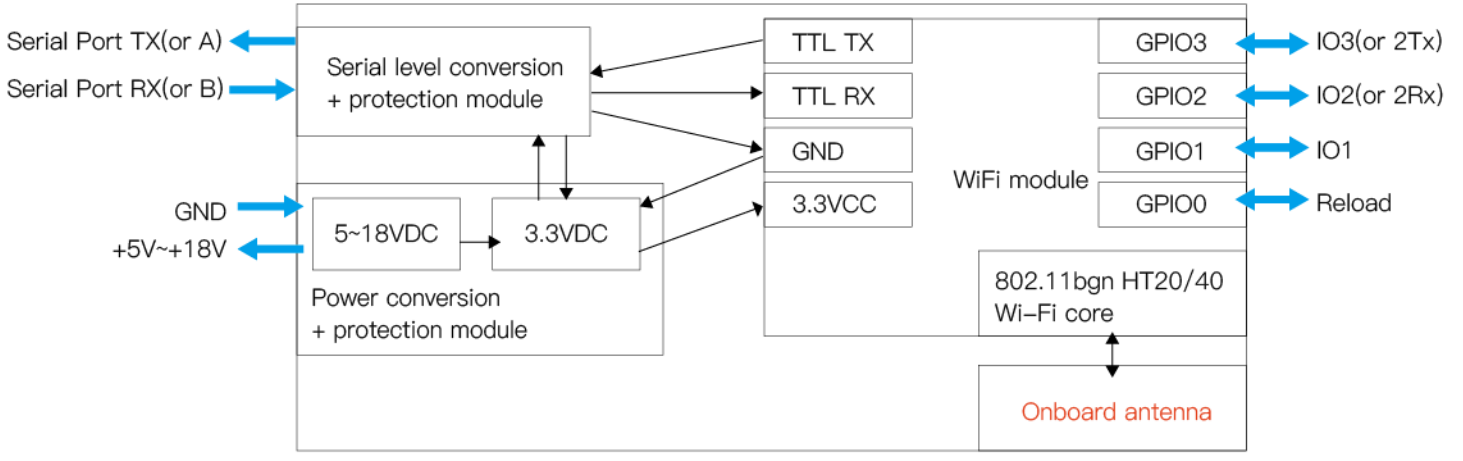
Product Function Block Diagram



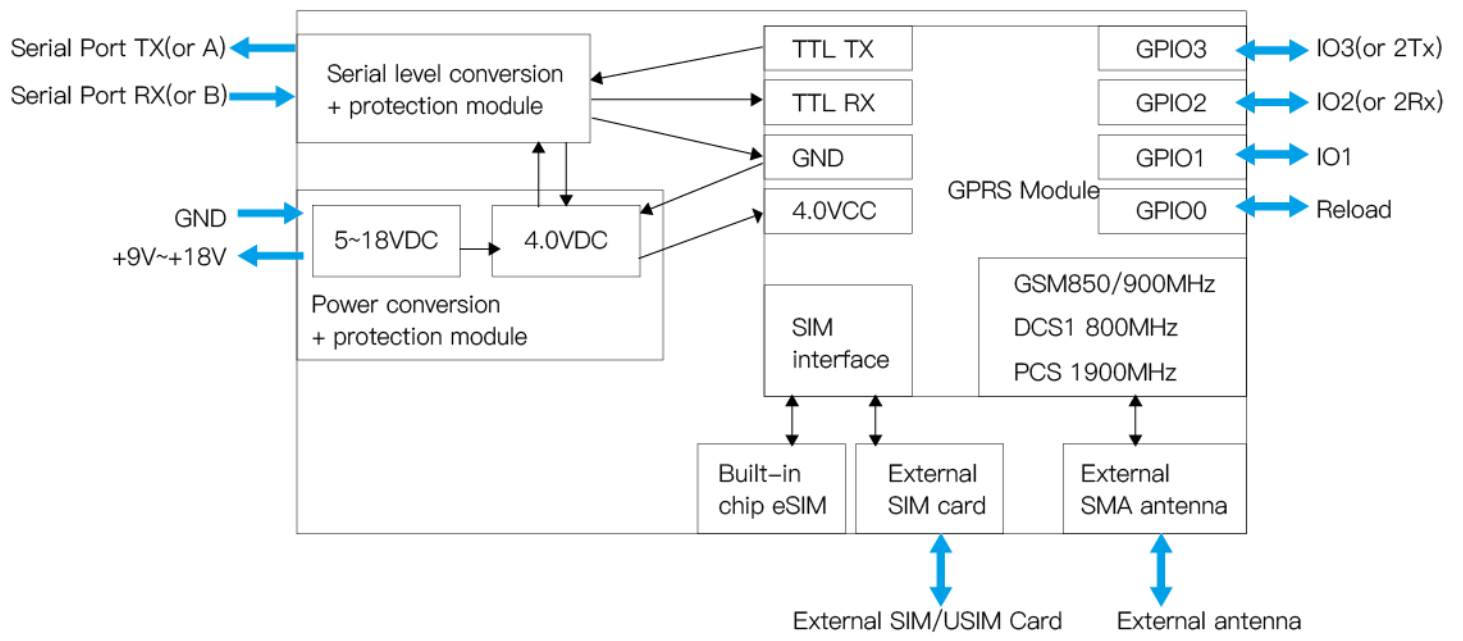
Elfin-EE series Ethernet



Elfin-EW series WiFi



Elfin-EG series GPRS



Elfin Series

Product	<i>Elfin-EE10/EE11</i>		<i>Elfin-EW10/EW11</i>		<i>Elfin-EG10/EG11</i>	
Function	Serial to Ethernet		Serial to WIFI		Serial to GPRS	
Core Resources						
Processor	Cortex-M3		Cortex M4		RDA8955	
Main Frequency	96MHz		160MHz		256MHz	
Operating System	FreeRTOS		mbed		SRX	
Flash Resources	2MB		2MB		4MB	
RAM	128KB		448KB		4MB	
Network Interface Parameters						
Ethernet Interface Parameters	802.3	Wireless Standard	802.11 b/g/n	Cellular Standard	GSM/GPRS	
Ethernet Interface Form	1 RJ45 with LED	Antenna Form	Built-in onboard antenna	Antenna Form	External SMA inner needle type	
Interface Standard	10/100 Base-T Auto-negotiation	WIFI Band	2.412GHz-2.484GHz	Cellular Band	850/900/1800/1900MHz	
Network Protocol	IP, TCP, UDP, DHCP, DNS, HTTP Server/Client, ARP, BOOTP, AutoIP, ICMP, Telnet, uPNP	Network Protocol	IP, TCP, UDP, DHCP, DNS, HTTP Server/Client, ARP, BOOTP, AutoIP, ICMP, Telnet, uPNP	Cellular Communication Network Protocol	TCP/UDP	
Security Protocol (Data Communication)	TLSv1.2, AES-128Bit, DES3, SSL	WIFI Security (Encryption Method)	Encryption: AES 128Bit, 3DES, SHA-1, MD5, Base-64, RSA Certification: PSK, AES-CCMP*	Security Protocol (Data Communication)	TLSv1.2, AES-128Bit, DES3, SSL	
Network port protection	2KV electromagnetic isolation	Wireless Transmit Power	802.11b: +18 dBm (Max.) 802.11g: +16 dBm (Max.) 802.11n: +14 dBm (Max.)	Cellular Transmit Power	GSM850/GSM900: Class 4(2W) DCS1800/PCS1900: Class 1(1W)	
Network transformer	integrated	Wireless Receiving Sensitivity	802.11b: -87 dBm (@11Mbps, CCK) 802.11g: -75dBm (@54Mbps, OFDM) 802.11n: -72dBm (@HT20, MCS7)	GPRS Rate	Downstream: 107Kbps Upstream: 85.6Kbps	
Maximum Number of Connections	5socket	Maximum Number of Connections	Max 8 STA	Maximum Number of Connections	5socket	
		WIFI Mode	AP, AP+STA, STA	SIM Card Interface	1.8V/3V(External)	
IO Interface Parameters						
Serial Port Number	0		3		3	
IO Voltage Range	/		-0.3~3.6V		-0.3~3.0V	
Reload Reset Interface	No		Yes		Yes	
Serial Interface Parameters						
Serial Port Number	1		1		1	
Interface Standard	EE10: RS232	EE11: RS485	EW10: RS232	EW11: RS485	EG10: RS232	EG11: RS485
Baud Rate	2400~460800bps		600~230400bps		600~230400bps	
Serial Port Protection	Yes		Yes		Yes	
Product Features						
Configuration Method	WEB page, Cli command, XML file import, Telnet configuration, IOTService software		SmartLink V7, X APP, Airkiss configuration, WEB page, Cli command, XML file import, Telnet configuration, IOTService software		AT command, IOTSerialTool software, SMS configuration	
WEB Webpage	Standard or custom page		Standard or custom page		Don't support	
IP Acquisition Method	DHCP or static IP, AutoIP		DHCP or static IP, AutoIP		AutoIP	
Virtual Data Channel	Support		Support		Support	
Firmware Upgrade	WEB Page, IOTService software		WEB Page, IOTService software, OTA		AT command, IOTService software, SMS configuration	
Registration Package Function	Support		Support		Support	
Heartbeat Package Ffunction	Support		Support		Support	
Custom Scripting	Support		Support		Support	
Packet filtering	Support		Support		Support	
Serial Port Automatic Framing	Support		Support		Support	
Modbus RTU to Modbus TCP	Support		Support		Support	
NTP Function + Time Zone Setting	Support		Support		Support	
Parameter Import and Export	Support		Support		Support	
Provide SDK	Support		Support		Support	
Mechanical Properties						
Protection Level	IP-30		IP-30		IP-30	
Size (mm)	61*26*17.8		61*26*17.8		68*26*17.8	
Weight (g)	20		20		30	
Environmental Parameters						
Operating Temperature	-25~75℃		-25~75℃		-25~75℃	
Save Environment	-50~90℃, 5~95%RH (Non-condensing water)		-50~90℃, 5~95%RH (Non-condensing water)		-50~90℃, 5~95%RH (Non-condensing water)	
Power Parameter						
Input Voltage	5~36VDC		5~36VDC		5~36VDC	
Interface Form	1 RJ45 with LED		1 RJ45 with LED		1 RJ45 with LED	
Power Protection	Power supply anti-reverse		Power supply anti-reverse		Power supply anti-reverse	
Working Current	~100mA		~200mA		~300mA	
Power Consumption	<400mW		<700mW		<700mW	
Other Information						
Certificate	3C/FCC/CE/RoHS	3C/FCC/CE/RoHS	3C/FCC/CE/TELEC/SRRC/RoHS	3C/FCC/CE/TELEC/SRRC/RoHS	3C/FCC/CE/RoHS	3C/FCC/CE/RoHS