

PRODUCT GUIDE

Mar 2025

Chip

- ioNIC (Internet Offload Network Interface Chip)
- iMCU (Internet MCU)
- iEthernet (Ethernet Controller)

Module

- Serial to Ethernet Module
- ioPort Series
- Network Module

Evaluation Boards Powered by Raspberry Pi

Open-Source Hardware Products

- For Arduino Classic & MKR Family
- For Raspberry Pi Pico series

Wireless

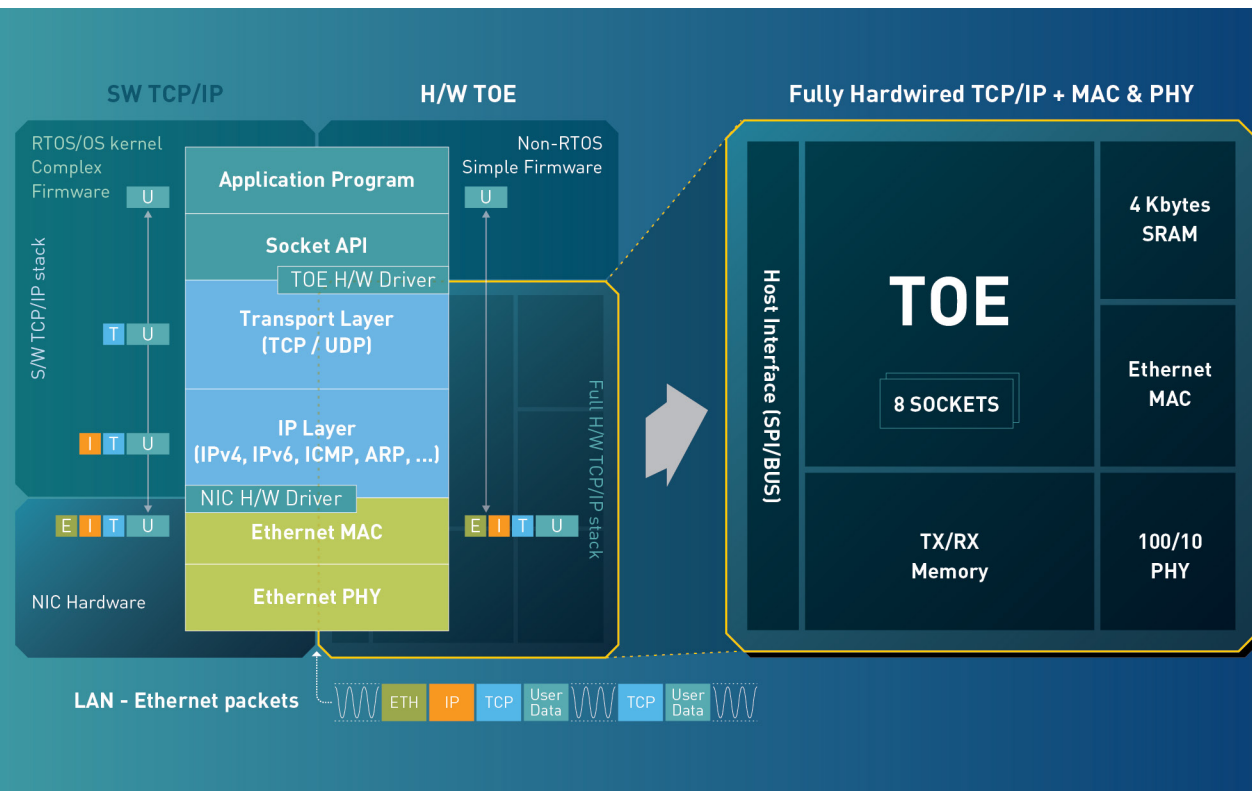
- WizFi Module (Embedded Wi-Fi Module)

wiznet.io

WIZnet TOE(TCP/IP Offload Ethernet) : Transforming Network Performance

Why choose WIZnet TOE?

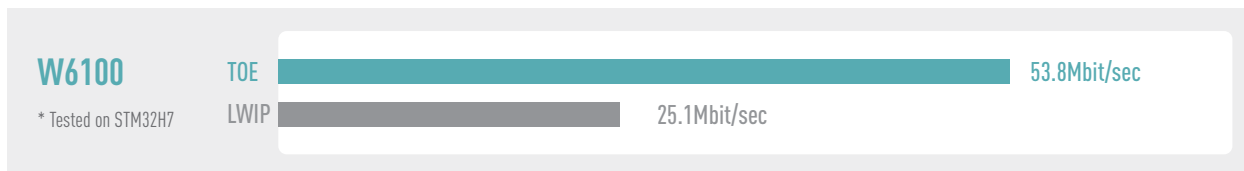
Our technology reflects our commitment to delivering innovative solutions that meet your evolving needs.



- Trust in WIZnet for**
- Reliability** : Built to last and stand the test of time.
 - Performance** : Ensuring smooth and efficient functionality
 - Future-Proofing** : We're shaping the future of connectivity so you can stay ahead.

Advantages of TCP/IP Offload Ethernet

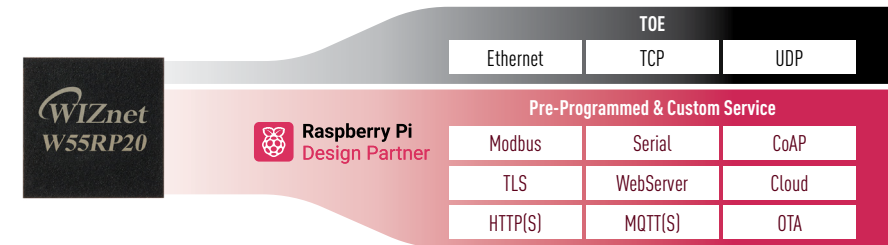
The TCP Offload Ethernet (TOE) streamlines network data processing, enhancing efficiency and alleviating the strain on the CPU. The below graph compares the iPerf performance of TOE with LWIP, the most widely used software stack, highlighting TOE's superior capabilities



Chip

ioNIC (Internet Offload Network Interface Chip)

W55RP20



Features	Tx/Rx Buffer	32KB	Available as Pre-programmed Chip
- Dual ARM Cortex-M0+ @ 133MHz	HW Socket #	8	<ul style="list-style-type: none"> Ready to use with built-in Serial-to-Ethernet firmware Includes a unique MAC address Firmware customization service provided via direct.wiznet.io
- Hardwired TCP/IP stack	Operation Temp (°C)	-40 ~ 85	
- 2MByte Flash memory on-chip	Package & Size	68TQFP : 8 x 8 (mm)	
- 264kB on-chip SRAM			

Products based on W55RP20

W55RP20-EVB-Pico



W232N Module

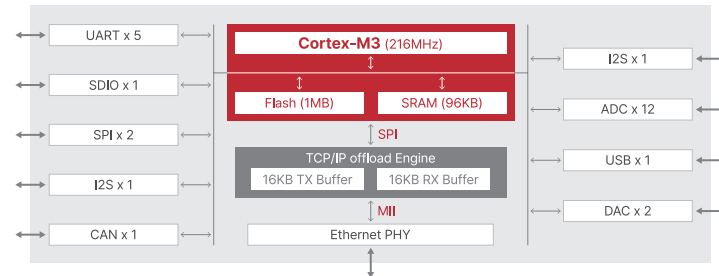


- Identical pinout with Pico
- USB Type C
- PoE support available via add-on module
- Modbus TCP to Modbus RTU/ASCII
- 10/100Mbps Ethernet / Up to 230kpbs Serial
- Web Server control
- Support DIN-Rail
- Compact size : 52x28x78mm

Chip

iMCU (Internet MCU)

W55MH32



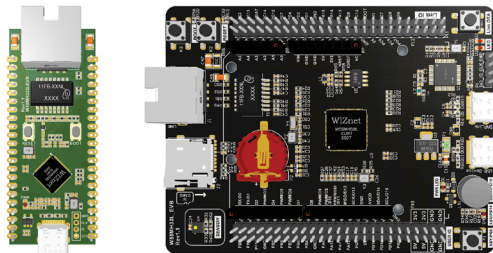
Features

- ARM Cortex-M3 @ 216MHz
- Hardwired TCP/IP Stack
- 1MByte Flash memory on-chip
- 96KB on-chip SRAM

Tx/Rx Buffer	32KB
HW Socket #	8
Operation Temp [°C]	-40 ~ 85
Package & Size	68QFN: 8x8mm 100QFN: 12x12mm
GPIO #	36 66

Products based on W55MH32

W55MH32Q-EVB/W55MH32L-EVB



- Evaluation Board for W55MH32
- Compact size(W55MH32Q-EVB)
- Rich interfaces(W55MH32L-EVB)
- Onboard WIZlink debugging tool

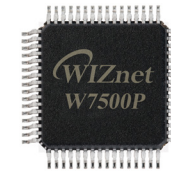
WIZDTU Module



- Modbus TCP to Modbus RTU/ASCII
- 10/100Mbps Ethernet / Up to 1Mbps Serial
- Web Server control
- Compact size: 81.9x23.5x56.3mm

W7500P

W7500

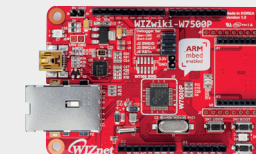


Embedded Core	ARM Cortex-M0, TCP/IP, Ethernet MAC, PHY	ARM Cortex-M0, TCP/IP, Ethernet MAC
Flash	128KB	128KB
SRAM	16KB	16KB
Tx/Rx Buffer	32KB (available for SRAM)	32KB (available for SRAM)
Socket #	8	8
Network Performance	Up to 25Mbps	Up to 25Mbps
Operation Temp [°C]	0 ~ 70	-40 ~ 85
Package	64TQFP : 7 x 7 (mm)	64TQFP : 7 x 7 (mm)

WIZwiki-W7500P

WIZwiki-W7500

Evaluation Board



Pre-Programmed Chip

S2E Firmware
10/100 Ethernet
MAC/PHY

Available as Pre-programmed Chip: W7500(P)-S2E

- Ready to use with built-in Serial-to-Ethernet firmware
- Includes a unique MAC address
- Firmware customization service provided

iEthernet (Ethernet Controller)

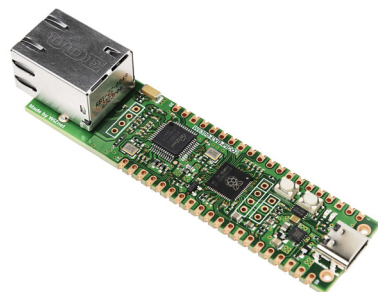
W6300



Embedded Core	TCP/IPv4/IPv6/MAC, PHY	Network performance	Up to 80Mbps
Host I/F	QSPI, 8bit BUS	Operation temp	-40 ~ 85
Tx/Rx Buffer	64KB	Package	48LQFP, 48QFN:7x7(mm)
Socket #	8		

Related products

W6300-EVB-Pico2



- Identical pinout with Pico2
- USB Type C
- PoE support available via add-on module

WIZ630io



- Compatible with io-series modules
- Designed for easy integration
- Compact size: 23 x 25 x 18 mm

W6100

W5100S

W5500

W5300

W5100



Embedded Core	TCP/IPv4/IPv6, MAC, PHY	TCP/IPv4, MAC, PHY	TCP/IPv4, MAC, PHY	TCP/IPv4, MAC, PHY	TCP/IPv4, MAC, PHY
Host I/F	Fast SPI, 8bit BUS	Fast SPI, 8bit BUS	Fast SPI	8/16bit Bus	8bit BUS, SPI
Tx/Rx Buffer	32KB	16KB	32KB	128KB	16KB
Socket #	8	4	8	8	4
Process	0.11µm	0.11µm	0.13µm	0.18µm	0.18µm
Network Performance	Up to 50Mbps	Up to 25Mbps	Up to 50Mbps	Up to 80Mbps	Up to 25Mbps
Low Power & WoL	Yes	Yes	Yes	No	No
Auto-MDIX	Yes	Yes	No	Yes	Yes
Operation Temp (°C)	-40 ~ 85	-40 ~ 85	-40 ~ 85	-40 ~ 85	-40 ~ 85
Package	48LQFP, 48QFN : 7x7(mm)	48LQFP, 48QFN : 7x7(mm)	48LQFP : 7 x 7 (mm)	100LQFP : 14 x 14 (mm)	80LQFP : 10 x 10 (mm)

W6100-EVB

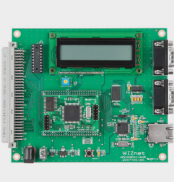
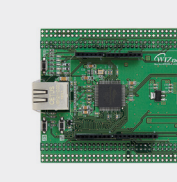
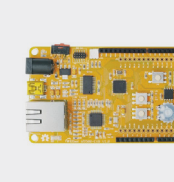
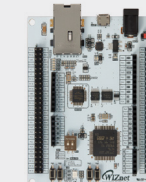
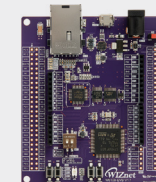
W5100S-EVB

W5500-EVB

W5300-TOE-Shield

W5100E01-AVR

Evaluation Board










Main Features

- Hardware network engine immune to attacks like flooding, spoofing, and injection, ensuring network security.
- User-friendly interface, offering simple and memory-like control.
- Integrated support for essential TCP/IP protocols: TCP, UDP, ICMP, IPv4/IPv6, ARP, IGMP, PPPoE.
- Ensures stable, high-performance network and data communication.
- Operates at 3.3 V with tolerance for 5V I/O signals.

Module

Serial to Ethernet Module

	WIZ750SR	WIZ750SR-100	WIZ750SR-105	WIZ750SR-110	WIZ752SR-120	WIZ752SR-125	WIZ550S2E
							
MCU	W7500P	W7500	W7500	W7500	W7500	W7500	Cortex-M0
Ethernet IC	W7500P (Internal PHY)	IP101GRI (PHY)	IP101GRI (PHY)	IP101GRI (PHY)	IP101GRI (PHY)	IP101GRI (PHY)	W5500
Serial Interface	TTL	TTL	TTL	RS232C	TTL	RS232C	TTL
Ethernet Interface	RJ45	Pin Header (External RJ45)	RJ45	RJ45	Pin Header (External RJ45)	RJ45	RJ45
Serial Interface Number	1	1	1	1	2	2	1
Pin Header	Two 1 x 6, 2 x 6, 1 x 2	Two 1 x 12	2 x 6	N/A	Two 1 x 14	N/A	Two 1 x 9
Pin Pitch	2.54mm	2mm	2mm	N/A	2mm	N/A	2.54mm
DB-9	No	No	No	Yes	No	Yes	No
Operation Voltage	3.3V	3.3V	3.3V	5V	3.3V	5V	3.3V
Max. Power Consumption	-	90mA	90mA	95mA	90mA	95mA	179mA
Operation Temp [°C]	0 ~ 70	-40 ~ 85	-40 ~ 85	-40 ~ 85	-40 ~ 85	-40 ~ 85	-40 ~ 85
Dimension (mm)	48 x 30 x 18	50 x 30 x 12	40 x 62 x 17	75 x 50 x 17	50 x 30 x 9	60 x 89 x 18	55 x 30 x 23.49
Evaluation Board	WIZ750SR-EVB TTL/RS-232 Type RS-422/485 Type	WIZ750SR-100-EVB	WIZ750SR-105-EVB	N/A	WIZ752SR-120-EVB	N/A	WIZ550S2E-EVB

Main Features of Serial-to-Ethernet Modules

- Firmware and hardware resources are publicly accessible on GitHub.
- Customization services for both hardware and firmware are offered.
- A range of configuration tools is available to enhance user experience.

	W5500S2E-S1	W5500S2E-Z1	W5500S2E-R1	WIZ500SR-RP	WIZ505SR-RP	WIZ510SR-RP
						
MCU	STM32F103	STM32F103	STM32F103	RP2040	RP2040	RP2040
Ethernet IC	W5500	W5500	W5500	W5100S	W5100S	W5100S
Serial Interface	TTL	TTL	TTL	TTL	TTL	RS232C
Ethernet Interface	Transformer	Transformer	RJ45	Pin Header (External RJ45)	RJ45	RJ45
Serial Interface Number	1	1	1	1	1	1
Pin Header	1 x 7, 2 x 7	1 x 11, 1 x 12	1 x 11, 1 x 12	1 x 12, 2 x 12	2 x 7	N/A
Pin Pitch	2.54mm	2.54mm	2.54mm	2mm	2.54mm	N/A
DB-9	No	No	No	No	No	Yes
Operation Voltage	3.3V	5V	3.3V	3.3V	3.3V	5V
Max. Power Consumption	106mA	106mA	106mA	120mA	125mA	130mA
Operation Temp [°C]	-40~85	-40 ~ 85	-40 ~ 85	-20 ~ 85	-20 ~ 85	-20 ~ 85
Dimension (mm)	34.0 x 24.0 x 12.4	44.45 x 31.75 x 15.75	44.45 x 31.75 x 23.00	30 x 50 x 12	40 x 62 x 18	75 x 45 x 18
Evaluation Board		WIZSE Breakboard		WIZ500SR-RP-EVB WIZ505SR-RP-EVB	WIZ505SR-RP-EVB	N/A

Introducing Secure Networking with WIZ5xxSR-RP series



- First to Support SSL/TLS: Ensures secure data transmission for high-security applications.
- High Performance: Ideal for IoT and industrial applications.
- Easy Integration: Simplifies the addition of secure networking to existing products.

Serial to Ethernet Module

	W7500S2E-S1	W7500S2E-Z1	W7500S2E-R1	W7500S2E-D1	W7500S2E-P1
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MCU	W7500	W7500	W7500	W7500	W7500
Ethernet IC	W7500 + IP101GRI	W7500 + IP101GRI	W7500 + IP101GRI	W7500 + IP175LLFI	W7500 + IP101GRI
Serial Interface	TTL	TTL	TTL	TTL	TTL
Ethernet Interface	Transformer	Transformer	RJ45	2 x RJ45	RJ45
Serial Interface Number	1	1	1	1	1
Pin Header	1 x 7, 2 x 7	1 x 11, 1 x 12	1 x 11, 1 x 12	1 x 11, 1 x 12	1 x 11, 1 x 12
Pin Pitch	2.54mm	2.54mm	2.54mm	2.54mm	2.54mm
DB-9	No	No	No	No	No
Operation Voltage	3.3V	5V	3.3V	3.3V	5V
Max. Power Consumption	66mA	66mA	66mA	180mA	78mA
Operation Temp [°C]	-40 ~ 85	-40 ~ 85	-40 ~ 85	-40 ~ 85	-40 ~ 85
Dimension (mm)	34.0 x 24.0 x 12.4	44.45 x 31.75 x 15.75	44.45 x 31.75 x 23.00	44.5 x 43 x 23	44.5 x 31.8 x 32
Evaluation Board	WIZSE Breakboard				
PoE support	No	No	No	No	Yes

Module Customizing Service

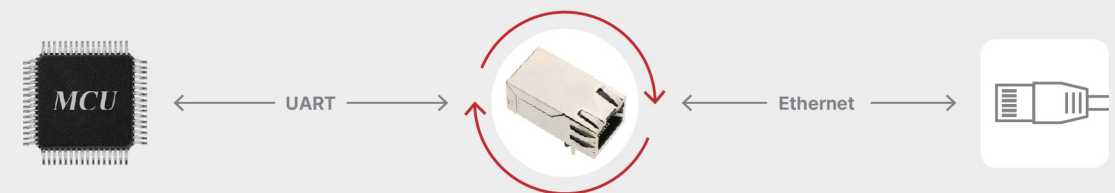
- Tailored application modules to meet specific requirements
- Software & hardware design support
- Mass production service for customized modules

ioPort Series

	WIZ-IP51S	WIZ-IP75	WIZ-IP32
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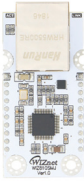


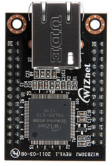





MCU	N/A	W7500	W55MH32Q
Ethernet IC	W5100S-Q	W7500 + IP101GRI	W55MH32Q
Serial Interface	SPI	TTL	TTL
Ethernet Interface	RJ45	RJ45	RJ45
Serial Interface Number	1	1	2
Operation Voltage	3.3V	3.3V	3.3V
Operation Temp[°C]	-40 ~ 85	-40 ~ 85	-40 ~ 85
Dimension(mm)	44.5 x 31.8 x 32	44.5 x 31.8 x 32	44.5 x 31.8 x 32
Evaluatuion Board	ioModule Carrier Board		ioPort-EVB

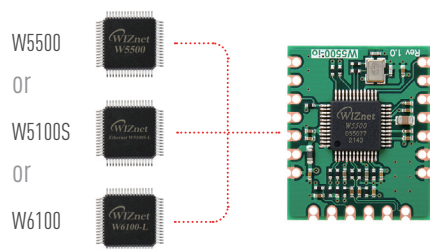


Network Module

- Plug-in Internet Offload module with iEthernet chip & Mag Jack
- Usable without h/w design for iEthernet chip, transformer and RJ-45

	WIZ810Sio	WIZ810SMJ	WIZ850io	WIZ550io	WIZ830MJ	WIZ610io	WIZ610MJ	WIZ630io
								
Ethernet IC	W5100S	W5100S	W5500	W5500	W5300	W6100	W6100	W6300
Host Interface	Fast SPI	Fast SPI, 8bit Bus	Fast SPI	Fast SPI	8/16bit bus	Fast SPI	Fast SPI, 8bit Bus	QSPI, 8bit BUS
HW Socket	4	4	8	8	8	8	8	8
Auto MDIX	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Ethernet Interface	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45
Pin Header	Two 1 x 6	Two 1 x 10	Two 1 x 6	1 x 8, 1 x 6	Two 2 x 14	Two 1 x 6	Two 1 x 6	Two 1 x 6
Pin Pitch	2.54mm	2.54mm	2.54mm	2.54mm	2.54mm	2.54mm	2.54mm	2.54mm
MAC Address	No	No	No	Yes	No	No	No	No
Operation Temp [°C]	-40 ~ 85	-40 ~ 85	-40 ~ 85	-40 ~ 85	-40 ~ 85	-40 ~ 85	-40 ~ 85	-40 ~ 85
Dimension (mm)	23 x 25 x 18	55.5 x 25 x 23.5	23 x 25 x 18	54 x 26 x 24	53.3 x 34 x 19.5	23 x 25 x 23.5	25 x 52 x 23	23 x 25 x 18

W5100S/W5500/W6100-io Modules



Surface mountable Internet Offload modules

- Hardwired TCP/IP offered in 3 variants, designed with W5500, W5100S or W6100
- Host interface: SPI
- Pin headers: Two 1 x 7 (2.54mm), One 1 x 6 (2.54mm)
- Compact size (only 20 x 24 x 3 mm)
- Industrial temperature grade: -40 ~ 85

Evaluation Boards Powered by Raspberry Pi

W55RP20-EVB-Pico

W6100-EVB-Pico2

W5500-EVB-Pico2

W5100S-EVB-Pico2



Core	W55RP20	RP2350A	RP2350A	RP2350A
Ethernet IC	-	W6100	W5500	W5100S
Serial Interface	UART x 2, I2C x 2, SPI x 2	UART x 2, I2C x 2, SPI x 2	UART x 2, I2C x 2, SPI x 2	UART x 2, I2C x 2, SPI x 2
Ethernet Interface	RJ45	RJ45	RJ45	RJ45
Size	80 x 21	80 x 21	80 x 21	80 x 21
PoE Support	Yes	Yes	Yes	Yes

W5500-EVB-Pico-PoE

W5500-EVB-Pico

W5100S-EVB-Pico

W6100-EVB-Pico



Core	RP2040	RP2040	RP2040	RP2040
Ethernet IC	W5500	W5500	W5100S	W6100
Serial Interface	UART x 2, I2C x 2, SPI x 2	UART x 2, I2C x 2, SPI x 2	UART x 2, I2C x 2, SPI x 2	UART x 2, I2C x 2, SPI x 2
Ethernet Interface	RJ45	RJ45	RJ45	RJ45
Size	80 x 21	75 x 21	75 x 21	75 x 21
PoE Support	Yes	No	No	No

WIZPoE - P1



- IEEE802.3af compliant
- Mode A(Endspan), Mode B(Midspan)
- Wide input voltage range 40Vdc ~ 60Vdc
- High DC/DC conversion efficiency
- Isolation
- Internal build in 2 channel bridge rectifiers
- 5V/8W Output

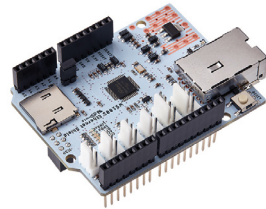
Open-Source Hardware Products

For Arduino Classic & MKR Family

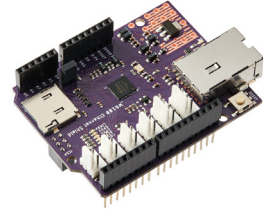
W5500 Ethernet Shield



W5100S Ethernet Shield

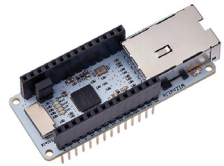


W6100 Ethernet Shield



Ethernet IC	W5500	W5100S	W6100
Ethernet Interface	RJ45	RJ45	RJ45
Size	68.58 x 53.31	68.58 x 53.34	68.58 x 53.34

W5100S MKR Ethernet Shield



W6100 MKR Ethernet Shield



Ethernet IC	W5100S	W6100
Ethernet Interface	RJ45	RJ45
Size	61.50 x 25.00	61.50 x 25.00

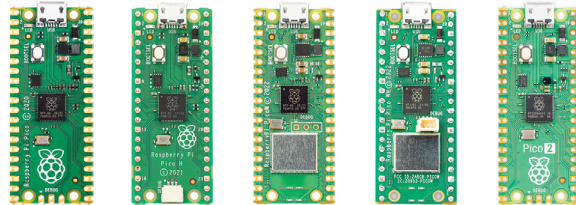
For Raspberry Pi Pico series

WIZnet Ethernet HAT



Ethernet IC	W5100S
Ethernet Interface	RJ45
Size	21 x 68 x 18

Compatible with all Raspberry Pi Pico versions



Pico Pico H Pico W Pico WH Pico2

Wireless

WizFi Module (Embedded Wi-Fi Module)

WizFi360-PA



WizFi360-CON



WizFi630S



Operation Mode	Station(Client), Soft AP	Station(Client), Soft AP	AP/Client/Router mode
Wireless Standard	802.11b/g/n, 2.4Ghz	802.11b/g/n, 2.4Ghz	802.11b/g/n, 2.4Ghz
Interface	UART, SPI, GPIO, ADC	UART, SPI, GPIO, ADC	2x UART, 3x PHY, 1x eMMC, GPIO, I2C, I2S, USB Host
Package	SMD Type	SMD Type	Mini-PCIe type
Antenna Type	PCB Antenna	UFL Antenna connector	UFL Antenna connector
Power Consumption	Receive=100 ~ 110mA (11b/g/n), Transmit=230mA(11b), 210mA(11g & 11b), Peak=TBD(230mA)		TBD
Configuration	AT Command	AT Command	Web, SSH, Serial console
Output Power	802.11b : 19dBm, 802.11g : 13.5dBm, 802.11n : 12dBm		TBD
Booting Time	Under 100ms	Under 100ms	30 ~ 50sec
Operation Temp [°C]	-40 ~ 85	-40 ~ 85	-25 ~ 80
Dimension (mm)	24 x 16 x 3	17 x 16 x 3	43 x 33
Certification	KCC, CE, FCC, TELEC	KCC, CE, FCC, TELEC	CE, FCC, KC, RoHS
Evaluation Board	WizFi360-EVB-Shield, WizFi360-EVB-Mini, WizFi360-EVB-Pico		WizFi630S-EVB

WizFi360, official Wi-Fi Shield on Arm Open-CMSIS-Pack and Keil Studio Cloud

Overview

The WizFi360 is a low-cost and low-power consumption industrial-grade WiFi module. It is compatible with IEEE802.11 b/g/n standard and supports SoftAP, Station and SoftAP+Station modes.

Documentation

Data sheet, technical reference, quick start guide: docs.wiznet.io

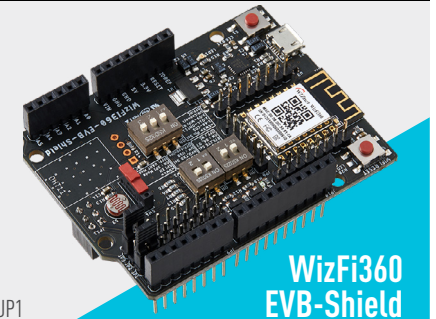
Usage

All IoT example projects require the following switch settings:

- SW1: all ON. - SW3: all OFF.
- SW2: all OFF. - SW4: OFF.

Connect these jumpers for serial communication:

- D0: JP3 and JP2 P2 - D1: JP2 and JP1



WizFi360 EVB-Shield



Documents
docs.wiznet.io



Tech Support
maker.wiznet.io/forum



Online shop
eshop.wiznet.io