

NM7010A

TCP/IP Ethernet Module

NM7010A is **mini network module** that includes the W3100A (Hardwired TCP/IP Chip) Ethernet PHY and Magnetic and RJ45 with other glue logic. This module is derivatives of NM7010A by adding MAG-JACK (RJ45 with transformer). Like NM7010A, these modules can be used as components and no effort is required to interface W3100A and PHY chip.



Feature

NM7010A consists of W3100A, Ethernet PHY and MAG-JACK.

- TCP/IP protocol layer: W3100A
- Physical layer: Ethernet PHY
- Connector: MAG-JACK

Measuring only 25 mm x 52mm, NM7010A operates at 3.3 V (with 5 V-tolerant I/O) and feature two 28-pin connection headers and auto-detects 10/100 Mbps Ethernet speed.

Two 28-pin connection headers provide 15 address signals, 8 data signals and 4 control signals between NM7010A's W3100A and MCU, 4 network signals between transformer and NM7010A's Ethernet PHY, 5LED signals NM7010A's Ethernet PHY to external, 2 Power (3.3V) signals, active high reset for W3100A and active low reset for Ethernet PHY and 9 GNDs. The pin description is as follows:

NM7010A Pin description

| JP1 | | | |
|------|--------|-----|--------------------|
| Pin# | Signal | I/O | Description |
| 1 | 3.3V | | Power |
| 2 | /INT | O | Interrupt Signal |
| 3 | /WR | I | Write signal |
| 4 | /RD | I | Read signal |
| 5 | /CS | I | Chip select signal |

| | | | |
|-----------------------|---------------|---|----------------|
| 6 | RESET | I | High active |
| 7,10,9,12,11,14,15~23 | A14~A9, A8~A0 | I | Address signal |
| 8,13,24 | GND | | Ground |
| 25,26,27 | MODE0~MODE2 | I | MODE select |
| 28 | EXT_CLK | I | External clock |

| JP2 | | | |
|-------------------------|--------|-----|--------------------------|
| Pin# | Signal | I/O | Description |
| 1,4,7,13,14,23 | GND | | Ground |
| 2 | /RESET | I | Low active |
| 3,5,6,8~12 | NC | | Not connected |
| 21,22,19,20,17,18,15,16 | D7~D0 | I/O | Data signal |
| 24 | 3.3V | | Power |
| 25 | SCL | I | I2C clock |
| 26 | SDA | I/O | I2C data |
| 6,8,10~12 | LEDs | O | Indicates network status |

Key Features

- Protocols: TCP, IP, UDP, ICMP, ARP, DLC and MAC included (Application protocols such as DHCP, HTTP, SMTP and PING are also included)
- Intel/Motorola MCU bus interface
- I2C serial interface
- 10/100Base-T auto detection
- Support for full-duplex mode
- 3.3V internal operation, 5V tolerant I/Os

Advantages

- Small size of 25mm x 52mm
- Easy design-win by reusing drop-in network module
- Users don't need to know details of network circuits
- Auto detects 10/100 Mbps Ethernet speed

Components

- TCP/IP: W3100A (TCP, IP, UDP, ICMP, ARP, DLC and MAC included)
- Ethernet physical layer: RTL8201BL
- Connector: MAG-JACK

For more details, please contact Bothhand's Singapore agent at:
www.tech-kinetics.com.