EOM-104
Quick Installation Guide

Moxa Embedded Ethernet Switch Module

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Overview

The EOM-104 Series Ethernet switch module provides an easy, cost-effective, and integrated solution for device manufacturers to embed an Ethernet switch module into an existing product for enhanced performance and reliability.

The module supports 10/100 Mbps Fast Ethernet, and comes with Turbo Ring's fast recovery time of under 20 ms built in. The EOM-104 Series also provides a rich set of peripherals (e.g., GPIO programming pins and DIP switches to enable Turbo Ring) and is an ideal solution for embedded Ethernet applications.

Package Checklist

The EOM-104 Series Evaluation Kit package contains the following items:

- EOM-104 series module
- EOM-104 series evaluation board
- Universal power adaptor
- 2 power cords
- Null modem serial cable
- Cross-over Ethernet cable
- Accessories pack
- Quick installation guide (printed)
- Warranty card

Note: Please notify your sales representative if any of the above items are missing or damaged.

First-Time Installation and Configuration

Before installing the EOM-104 Series, please check to make sure that all items in the Package Checklist are in the box.

Hardware Installation Procedure

Step 1: Plug the EOM-104 Series into the evaluation board.

Plug the EOM-104 Series module into the sockets on the top of the evaluation board

Step 2: Connect the power source to the evaluation board.

Connect the 12 VDC power line to the evaluation board's power jack.

Step 3: Connect the network cable to the evaluation board.

Use the RJ45 Ethernet cable to connect the Ethernet port on the evaluation board to an Ethernet network for evaluation.

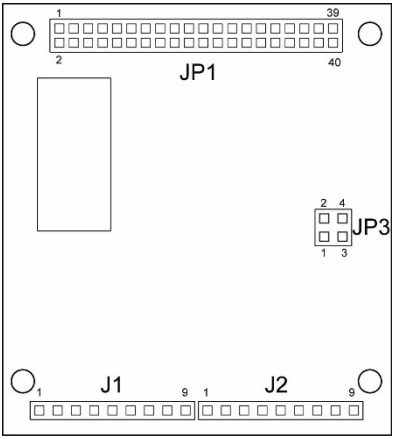
Step 4: Set up the computer's IP address.

In a Windows environment, the IP address can be changed in the TCP/IP Settings window. Select an IP address on the same subnet as the EOM-104 Series. Since the default IP address of the EOM-104 is 192.168.127.253, and the subnet mask is 255.255.255.0, you should set the IP address of the computer to 192.168.127.xxx.

Step 5: Configure the EOM-104 Series.

Please refer to EOM-104 Series User's Manual.

Layout of the EOM-104 Series



Pin Assignment

JP1 (2x20 connector pin assignment)

PIN	1	3	5	7	9	11	13	15	17	19
SIGNAL	TX2 -	RX2 -	NC	RX1 +	TX1 +	NC	GND	3.3V	GND	DTR

PIN	2	4	6	8	10	12	14	16	18	20
SIGNAL	TX2 +	RX2 +	NC	RX1 -	TX1 -	NC	GND	3.3V	GND	DSR

PIN	21	23	25	27	29	31	33	35	37	39
SIGNAL	TXD	GPIO 1	GPIO 3	MASTER ENABLE	MASTER LED	PORT 1 LED	PORT 3 LED	MANUAL RESET	3.3V	GND

PIN	22	24	26	28	30	32	34	36	38	40
SIGNAL	RXD	GPIO 2	GPIO 4	TURBO RING ENABLE	TURBO RING LED	RESET DEFAULT	PORT 4 LED	PORT 2 LED	3.3V	GND

J1 (1 x 9 connector pin assignment)

PIN	1	2	3	4	5	6	7	8	9
SIGNAL	GND	TX4 +	TX4 -	3.3V	3.3V	FXSD	RX4 -	RX4 +	GND

J2 (1 x 9 connector pin assignment)

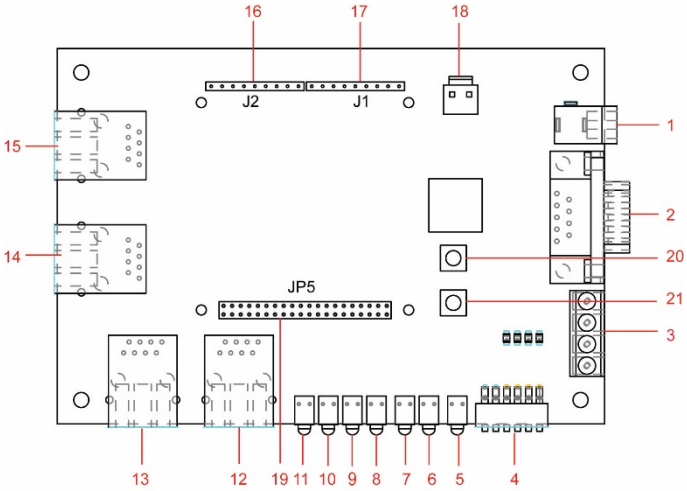
PIN	1	2	3	4	5	6	7	8	9
SIGNAL	GND	TX3 +	TX3 -	3.3V	3.3V	FXSD	RX3 -	RX3 +	GND

JP3 (2 x 2 connector pin assignment)

Jumpers 1 and 2 for Ring Master Enable

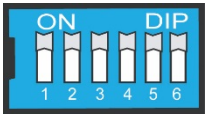
Jumpers 3 and 4 for Turbo Ring Enable

Layout of the Evaluation Board



1. 12 VDC Power Jack
2. Console Port
3. GPIO
4. Turbo Ring DIP Switch
5. PWR LED
6. Turbo Ring LED
7. Ring Master LED
8. Port 1 LED
9. Port 2 LED
10. Port 3 LED
11. Port 4 LED
12. Port 1 10/100BaseT(X)
13. Port 2 10/100BaseT(X)
14. Port 3 10/100BaseT(X), or 100BaseFX (Turbo Ring Port 1)
15. Port 4 10/100 BaseT(X),or 100BaseFX (Turbo Ring Port 2)
16. J2 Connector (Connect to EOM-104 J1)
17. J1 Connector (Connect to EOM-104 J2)
18. 3.3VDC Power Connector
19. JP5 Connector (Connect to EOM-104 JP1)
20. Reset to Default Button
21. Manual Reset Button

Turbo Ring DIP Switch Setting



	ON	OFF
DIP1	Enable this EOM as the Ring Master	This EOM will not be the Ring Master
DIP2	Activate Turbo Ring	Do not use Turbo Ring
DIP3	GPIO Reserve	GPIO Reserve
DIP4	GPIO Reserve	GPIO Reserve
DIP5	GPIO Reserve	GPIO Reserve
DIP6	GPIO Reserve	GPIO Reserve

Specifications

Technology	
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) and 100BaseFX IEEE 802.3x for flow control IEEE 802.1D for Spanning Tree Protocol IEEE 802.1w for Rapid STP IEEE 802.1p for Class of service
Protocols	SNMPv1/v2c/v3, DHCP Client, BootP, TFTP, SMTP, RARP, RMON, HTTP, Telnet, Syslog
MIB	MIB-II, Ethernet-Like MIB, P-Bridge MIB, Bridge MIB, RSTP MIB, RMON MIB Group 1, 2, 3, 9
Flow Control	IEEE 802.3x flow control
Interface	
Ethernet Ports	EOM-104: 4 10/100BaseT(X) EOM-104-FO: 2 10/100BaseT(X) and 2 100BaseFX
Connectors	1 connector with 2 x 20 pins and 2 connectors with 1 x 9 pins
Console Port	RS-232 (TxD, RxD, DTR, DSR)
GPIO	4 programmable I/O pins
Power Requirements	
Input Voltage	3.3V
Input Current	EOM-104: 0.48 A @ 3.3 V EOM-104-FO: 1.1 A @ 3.3 V
Physical Characteristics	
Dimensions	54 x 60 x 8.25 mm (2.13 x 2.36 x 0.32 in)
Environmental Limits	
Operating Temperature	-40 to 75°C (-40 to 167°F)
Storage Temperature	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Regulatory Approvals	
EMI	FCC Part 15, CISPR 32 class A, CE class A
Note: Please check Moxa's website for the most up-to-date certification status.	
Warranty	
Warranty Period	5 years
Details	See www.moxa.com/warranty