

X Series I/O Modules

4CH RS485 Module X1



X1 User Manual

Version: V1.0

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Shenzhen Beilai Technology Co.,Ltd

Website: <https://www.bliiot.com>

Preface

Thanks for choosing BLIIOT X series I/O modules. These operating instructions contain all the information you need for operation of X series I/O modules.

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Disclaimer

This document is designed for assisting user to better understand the device. As the described device is under continuous improvement, this manual may be updated or revised from time to time without prior notice. Please follow the instructions in the manual. Any damages caused by wrong operation will be beyond warranty.

Revision History

Revision Date	Version	Description	Owner
2025/7/4	V1.0	Initial Release	PH

Table of Contents

1 Introduction	4
1.1 Overview	4
1.2 Technical Specifications	4
1.3 Model Selection	5
2 Wiring	5
2.1 Terminal Definitions	5
2.2 Connection Example	6
2.2.1 RS485 Connection	6
3 Warranty Terms	7
4 Technical Support	7

1 Introduction

1.1 Overview

X1 is an industrial-grade serial communication expansion module specifically designed for the ARMxy series ARM embedded computers. The module features electrical isolation, overvoltage protection, ESD protection, fault protection, and overcurrent protection circuit designs, ensuring stability and reliability in complex industrial environments.

1.2 Technical Specifications

Name	Parameter	Description	
Power Supply	Operating Power	Internal Voltage	
	Working Voltage	12V-24V	
	Power Consumption	2W	
RS485	Channel	4 Channels	
	Maximum Baud Rate	RS485: 10Mbps	
	Data Bits	RS485: 5-bit, 6-bit, 7-bit, 8-bit (configurable)	
	Stop Bits:	RS485: 1-bit, 2-bit (configurable)	
	Parity	RS485: Odd parity, Even parity, No parity (configurable)	
	Flow Control	RS485: Not supported	
	Impedance	RS485: 120 Ω	
	Measured Distance and Operating Baud Rate	RS485: 200 meters (baud rate \leq 115200 bps)	
	Supports Multi-Drop Communication	RS485: Requires custom development	
	Communication Mode	RS485: Unidirectional Half-duplex / Simplex	
	Data Transmission Mode	RS485: Transmit and receive mode, Receive-only mode, Transmit-only mode	
	Logic Level	Logic "1":	-3 V
		Logic "0":	+3 V
	Maximum Output Current per Channel	100mA (at 26°C)	
Isolation Protection	2KVrms (built-in)		
Communication Cable Requirements	Shielded twisted pair cable		

Certifications	EMC	IEC 61000-4-2 (ESD) Level 3
		IEC 61000-4-4 (EFT) Level 3
		IEC 61000-4-5 (Surge) Level 3

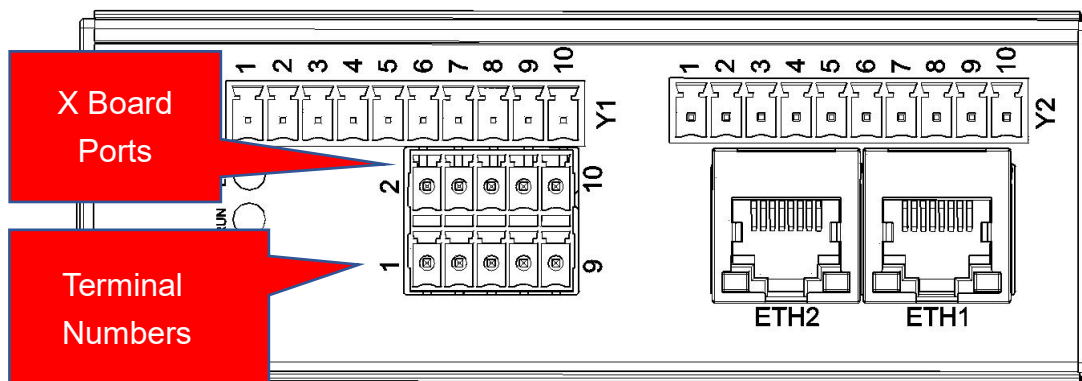
1.3 Model Selection

No.	Name	Model	Signal Type
1	4 channel RS485 module	X1	RS485: Differential signal

2 Wiring

2.1 Terminal Definitions

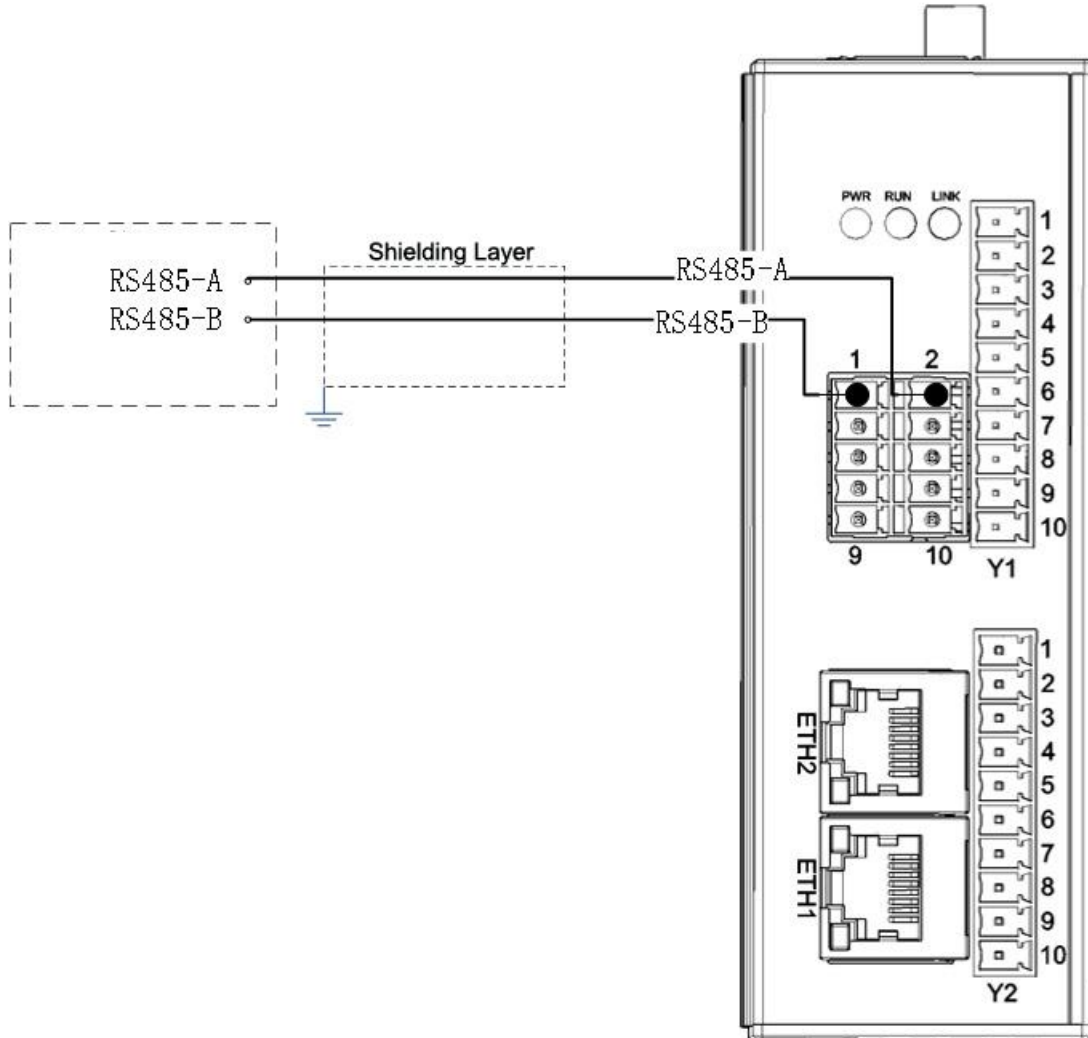
Notice: Please refer to the product's label for the specific terminal numbering sequence.



Terminal NO.	Definition	Description	Terminal NO.	Definition	Description
1	Channel 1	RS485-B	2	Channel 1	RS485-A
3	Channel 2	RS485-B	4	Channel 2	RS485-A
5	Channel 3	RS485-B	6	Channel 3	RS485-A
7	Channel 4	RS485-B	8	Channel 4	RS485-A
9	GND	Ground Terminal	10	PGND	Ground Terminal

2.2 Connection Example

2.2.1 RS485 Connection



3 Warranty Terms

- 1) This equipment will be repaired free of charge for any material or quality problems within one year from the date of purchase.
- 2) This one-year warranty does not cover any product failure caused by man-made damage, improper operation, etc

4 Technical Support

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