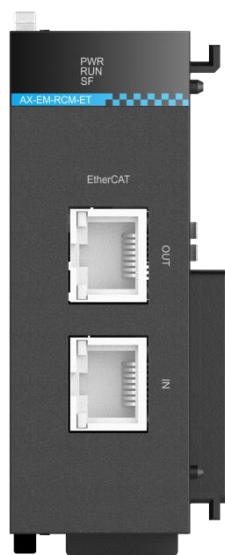


- When the external cold junction compensation resistor is PT1000, shorten the PT resistor lead as much as possible, and place the PT resistor near user terminals.
- The module needs to be installed on a properly-grounded metal bracket, and the metal dome at the module bottom must be in good contact with the bracket.
- Do not bind the sensor cable together with the AC cable, main circuit cable, or high-voltage cable. Otherwise, the binding can increase noise, surge, and induction impact. When using shielded cables, use single-point grounding for the shield layer.

5.4.7 AX-EM-RCM-ET EtherCAT communication module

The wiring terminals of AX-EM-RCM-ET communication module are shown in the following figure. This module implements remote communication with the CPU module by using the EtherCAT protocol. In addition, the CPU module as the master node supports the expansion of up to 125 EtherCAT slave nodes. They use network cables as the transmission medium.



Note:

- When connecting the network cable, hold the crystal head of the cable and insert it into the RJ45 interface of the communication module until it makes a click sound. When removing the installed network cable, press the tail mechanism of the crystal head and pull out it from the module horizontally.
- Use shielded twisted-pair cables of category 5 or higher, plastic injection molded and iron shelled. The network cables in AX series options are recommended.

Option	Model	Specifications
Shielded cable for communication	AX-L3-20	Shielded cable for communication, L=2m; AX-L3-20; RoHS
Shielded cable for communication	AX-L3-50	Shielded cable for communication, L=5m; AX-L3-50; RoHS

If you make the communication cables by yourself, the signal pins of the cables are distributed as follows:

Pin	Signal	Signal direction	Signal description
1	TD+	Output	Data transmission +
2	TD-	Output	Data transmission -

Pin	Signal	Signal direction	Signal description
3	RD+	Input	Data receiving +
4	--	--	Unused
5	--	--	Unused
6		Input	Data receiving -
7	--	--	Unused
8	--	--	Unused

If you make the communication cables by yourself, ensure the cables meet the following requirements:

- Length requirements: Fast Ethernet requires that the length of the cable between equipment cannot exceed 100 meters when you use the EtherCAT bus. If the length exceeds 100 meters, signal is attenuated, and communication is impacted.
- Technical requirements: The communication cables you use must pass the conductivity test 100%, without short circuit, opened circuit, dislocation or poor contact.
- To prevent the communication cable from being affected by other tensions and ensure the stability of communication, fix the cable close to the equipment side before communication.