VC-RS485 Communication Module User Manual

Thank you for purchasing the vc-rs485 communication module developed and produced by Suzhou VEICHI Electric Technology Co., Ltd. Before using our VC series PLC products, please read this manual carefully, so as to better grasp the characteristics of the products and correctly install and use them. More secure application and make full use of the rich functions of this product.

Tip：

Please read the operating instructions, precautions and cautions carefully before starting to use the product in order to reduce the risk of accidents. Personnel responsible for the installation and operation of the product must be strictly trained to comply with the safety codes of the relevant industry, strictly observe the relevant equipment precautions and special safety instructions provided in this manual, and carry out all operations of the equipment in accordance with the correct operating methods.

1 Interface description

1.1 Interface description

Extension interface and user terminal for VC-RS485, appearance as shown in Figure 1-1

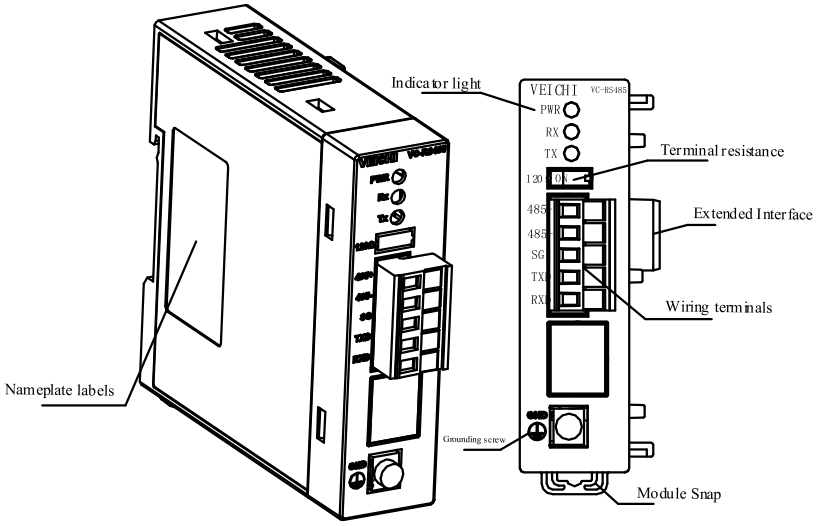

Figure 1-1 Appearance of the module interface

1.2 Terminal layout

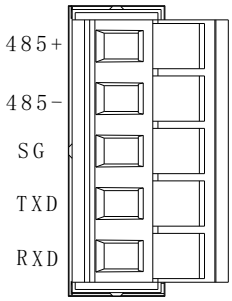

Figure 1-2 Illustrative diagram of the product model

1.3 Definition of terminals

Name		Function
Terminal block	485+	RS-485 communication 485+ terminal
	485-	RS-485 communication 485-terminals
	SG	Signal ground
	TXD	RS-232 communication data transmission terminal he(Reserved)
	RXD	RS-232 communication data receiving terminal (Reserved)
	GND	Grounding screw

Figure 1-3 Terminal definition table

1.4 Access system

The VC-RS485 module can be linked to the main module of the VC series PLC by means of an extension interface. As shown in Figure 1-4

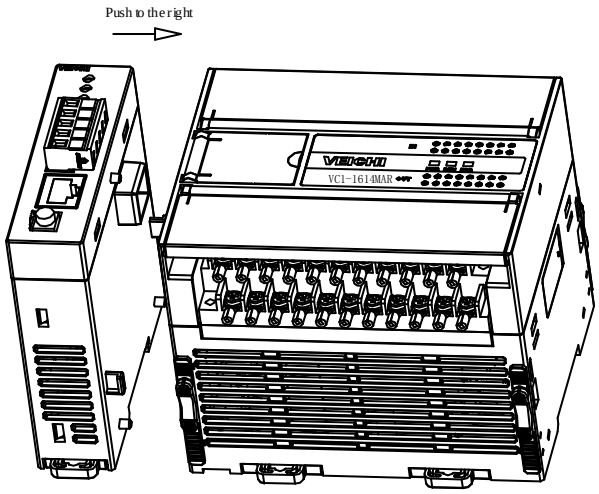

Figure 1-4 Schematic diagram of the connection between the communication module and the main module

1.5 Wiring instruction

1) Wire

It is recommended to use 2-conductor shielded twisted-pair cable instead of multi-core twisted-pair cable.

2) Wiring specifications

1. The 485 communication cable requires a lower baud rate when communicating over long distances.

2. It is important to use the same cable in the same network system to minimise the number of joints in the line. Make sure that the joints are well soldered and tightly wrapped to avoid loosening and oxidation.

3. The 485 bus must be daisy-chained (hand-held), no star connections or bifurcated connections are allowed.

4. Keep away from power lines, do not share the same wiring duct with power lines and do not bundle them together, keep a distance of 500 mm or more

5. Connect the GND ground of all 485 devices with a shielded cable.

6. When communicating over long distances, connect a 120 Ohm termination resistor in parallel to 485+ and 485- of the 485 devices at both ends.

2 instruction

2.1 Indicator description

Project	Instruction
Signal indicator	PWR power indicator: this light remains on when the main module is correctly connected. TXD: Transmit indicator: the light flashes when data is being sent. RXD: Receive indicator: the lamp flashes when data is received.
Expansion module interface	Expansion module interface, no hot-swap support

3 Module functional features

1. The VC-RS485 expansion communication module is mainly used to expand the RS-232 or RS-485 communication port. (RS-232 is reserved)

2. The VC-RS485 can be used for the left side expansion of the VC series PLC, but only one of the RS-232 and RS-485 communication can be used. (RS-232 reserved)

3. The VC-RS485 module can be used as a left expansion communication module for the VC series, and up to one module can be connected to the left side of the main PLC unit.

4 Communication configuration

The VC-RS485 expansion communication module parameters need to be configured in the Auto Studio programming software. e.g. baud rate, data bits, parity bits, stop bits, station number, etc.

Programming software configuration tutorial

1) Create a new project, in the Project Manager Communication Configuration COM2 Select the communication protocol according to your needs, for this example select Modbus protocol.

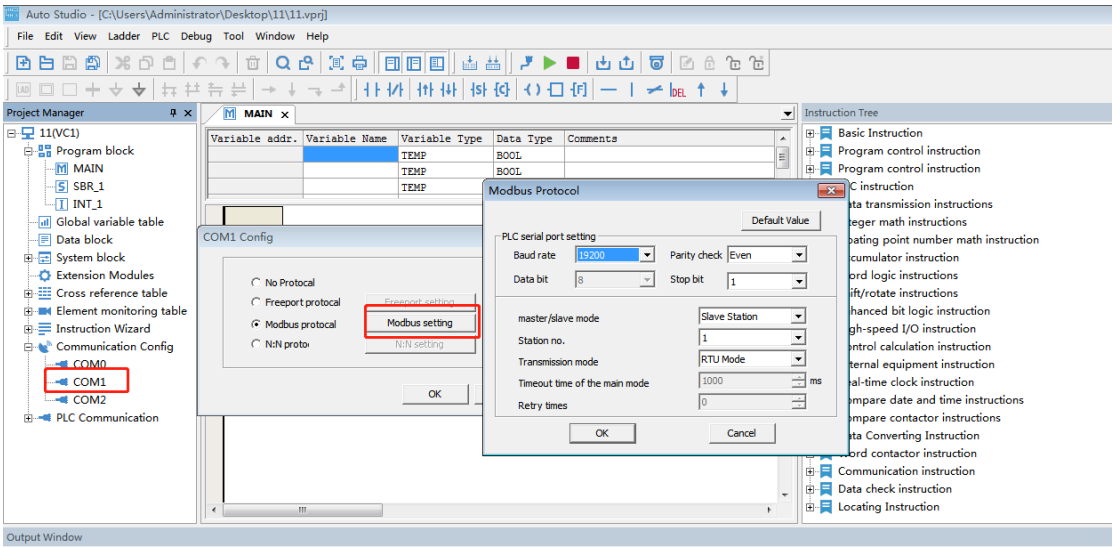

Figure 4-1 New construction

2) Click "Modbus Settings" to enter the communication parameters configuration, click "Confirm" after configuration to complete the communication parameters configuration As shown in Figure 4-2

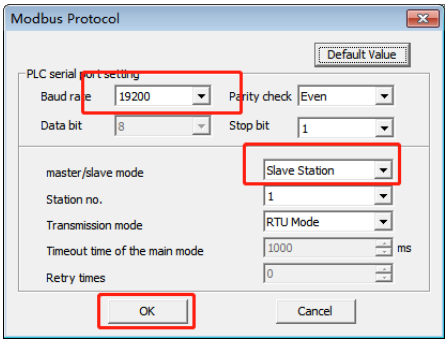

Figure 4-2 Parameter configuration

3） The VC-RS485 expansion communication module can be used as either a slave station or a master station, and you can choose according to your needs. When the module is a slave station, you only need to configure the communication parameters as shown in Figure 4-2; when the module is a master station, please refer to the programming guide. Refer to Chapter 10: Communication Function Usage Guide in "VC Series Small Programmable Controller Programming Manual", which will not be repeated here.

5 Installation

5.1 Size specification

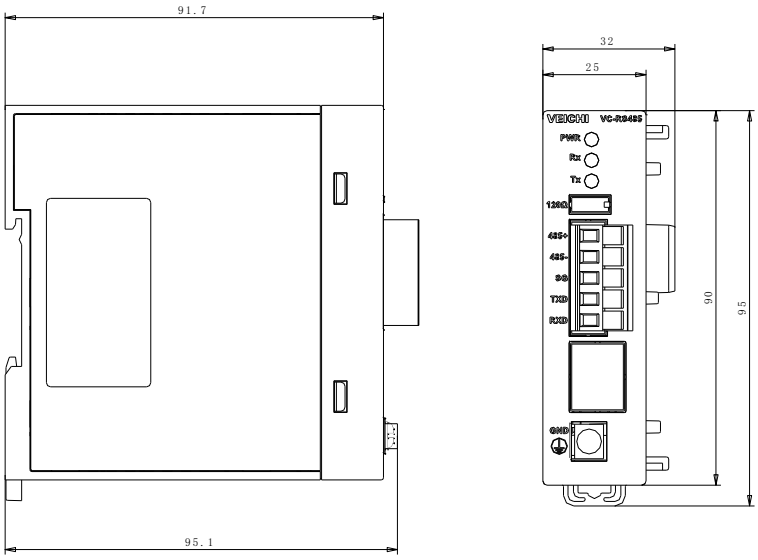

Figure 5-1 External dimensions and mounting hole dimensions (unit: mm)

5.2 Installation method

The installation method is the same as that for the main module, please refer to the VC Series Programmable Controllers User Manual for details. An illustration of the installation is shown in Figure 5-2.

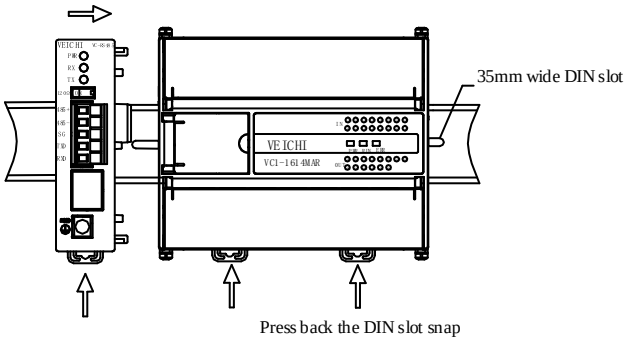

Figure 5-2 Fixing with DIN slot

6 Operational check

6.1 Routine check

1. Check that the analogue input wiring meets the requirements (see 1.5 Wiring instructions).

2. Check that the VC-RS485 expansion interface is reliably plugged into the expansion interface.

3. Check the application to ensure that the correct operating method and parameter range has been selected for the application.

4. Set the VC master module to RUN.

6.2 Fault checking

If the VC-RS485 does not operate properly, check the following items.

● Check the communication wiring

Make sure the wiring is correct, refer to 1.5 Wiring.

● Check the status of the module's "PWR" indicator

Always on: Module is reliably connected.

Off: abnormal module contact.

For Users

1. The scope of the warranty refers to the programmable controller body.

2. The warranty period is eighteen months. If the product fails or is damaged during the warranty period under normal use, we will repair it free of charge.

3. The start of the warranty period is the date of manufacture of the product, the machine code is the only basis for determining the warranty period, equipment without the machine code is treated as out of warranty.

4. Even within the warranty period, a repair fee will be charged for the following cases.

failure of the machine due to non-operation in accordance with the user manual.Damage to the machine caused by fire, flooding, abnormal voltage, etc..Damage caused when using the programmable controller for a function other than its normal function.

5. The service charge will be calculated on the basis of the actual cost, and if there is another contract, the contract will take precedence.

6. Please make sure that you keep this card and present it to the service unit at the time of warranty.

7. If you have a problem, you can contact your agent or you can contact us directly.

Suzhou VEICHI Electric Technology Co., Ltd

China Customer Service Center

Address: No. 1000, Songjia Road, Wuzhong Economic and Technological Development Zone

Tel: 0512-66171988 Fax: 0512-6617-3610

Service hotline: 400-600-0303 website: www.veichi.com com

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VEICHI Product warranty card

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Repairer:</td><td colspan="2">Suzhou VEICHI Electric Technology Co., Ltd
Address: No. 1000, Songjia Road, Wuzhong Economic and Technological Development Zone</td></tr>
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