

RemoDAQ-8000 Quick Start
RemoDAQ-8510 Series Modules
RemoDAQ-8520 Series Modules
User's Manual



Beijing Gemotech Intelligent Technology Co., Ltd

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Acknowledgments

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Additional Information and Assistance

1. Visit the **gemotech** websites at **www.gemotech.cn** where you can find the latest information about the product.
2. Contact your distributor, sales representative, or **gemotech** 's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
 - Product name and serial number
 - Description of your peripheral attachments
 - Description of your software (operating system, version, application software, etc.)
 - A complete description of the problem
 - The exact wording of any error messages

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I RemoDAQ-8000 Quick Start

1 Device Connection

1.1 Device

- 1 Computer with Win98/2000/XP any operating system
- 2 RemoDAQ-8000 Utility software
- 3 RemoDAQ-8520 RS-232/485 converter
- 4 RemoDAQ-8000 series I/O modules
- 5 Cable-DB9 (9-pin male-female D-sub cable)
- 6 Power supply for the RemoDAQ modules (10~30Vdc)

1.2 Device connection

Computer Connect with RemoDAQ-8520:

Computer (DB9 female) RemoDAQ-8520 (DB9)

PIN2-----PIN2
PIN3-----PIN3
PIN5-----PIN5

RemoDAQ-8520 / RemoDAQ-8018 Connect with Power:

RemoDAQ-8520 RemoDAQ-8017 24VDC

PIN1(DATA+)-----PIN7(DATA+)
PIN2(DATA-)-----PIN8(DATA-)
PIN9(+V_S)-----PIN9(+V_S)-----24V+
PIN10(GND)-----PIN10(GND)-----GND

Computer, Module and Power connection:



2 RemoDAQ Utility Install and Application

2.1 RemoDAQ-8000 Utility Install

1. If you have already installed “RemoDAQ-8000 Utility” then skip other steps.
2. Insert “RemoDAQ-8000 Utility” disc into CD-ROM:
3. A software utility and user manual can be found on the CD driver: CD:\ RemoDAQ-8000 series\ RemoDAQ-8000_Utility.exe and run it
4. Please follow the steps of setup program then you can successfully install the RemoDAQ-8000 Utility.

2.2 RemoDAQ-8000 Utility Application

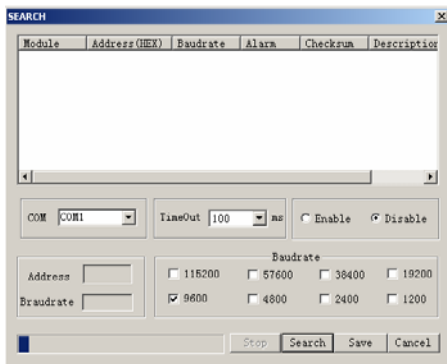


Figure 1

“SEARCH” function can search and display all connected modules. Parameter as follows:

- COM: select port
 - Baudrate: default setting 9600bps
 - Checksum: Disable or enable, default setting Disable.
 - TimeOut: default 50ms
-
- Search Button: search all connected modules, and display
 - Stop Button: stop search
 - Cancel Button: quit search interface

Note: Before operating, please confirm whether parameter conforms.

3 Change Module Address

RemoDAQ-8000 I/O modules default address 01, when RS-485 network connect up 2 modules, need to setting module's address, guarantee that address does not be repeated, usually, before modular enters scene, carry out modular address first to arrange set, and make identification in order to avoid that causing to obscure. When setting address, can only receive a module, then use RemoDAQ-8000_Utility set.

With RemoDAQ-8018 as example. After carrying out step1 and step2 enter RemoDAQ-8000_Utility the interface "Search module", click the button of "Search", arise following interface:

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Figure 2

Right now, have searched for module,click “stop” press to turn, double click “8018”, enter setting interface:

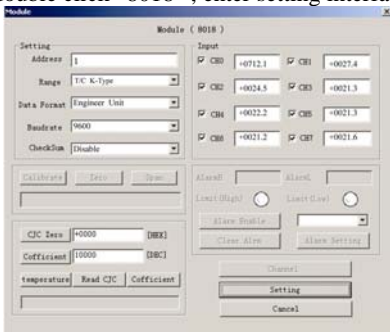


Figure 3

Input new address, then click“Setting”, press “Cancel” exit interface, then“Search”again, confirm the validity that sets.

If search for the parameter that does not go to module or forgets module, need connect the INIT* pin with the GND

pin, then press “Search” button, display menu as follows:

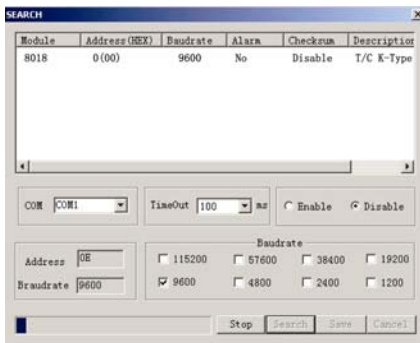


Figure 4

Double“8018”enter Figure.3 installation interface, input new address, and then click “Setting”, press “Cancel” exit interface, disconnect the INIT* pin with the GND pin, and then press “Search” button, confirm the validity that sets.

4 Change Baudrate and checksum

Connect the INIT* pin with the GND pin, then again the module of “Setting”, can arise the interface as Figure.4, double click “8018” enter picture installation interface as Figure 3, input new baudrate or checksum state, and then click “Setting”, press “Cancel” exit interface, disconnect the INIT* pin with the GND pin, press again with new baudrate and checksum (disable/enable), confirm the validity that sets.

II RemoDAQ-8510&RemoDAQ-8520 Series

1 Introduction

Most industrial computer systems come with RS-232 serial ports. Though widely accepted, RS-232 has limited transmission speed, range, networking capabilities. The RS-422 and RS-485 standards overcome these limitations by using differential voltage lines for data and control signals.

The RemoDAQ-8510 and RemoDAQ-8510A repeaters simply amplify, or boost, existing RS-485₍₈₅₁₀₎ and RS-485/422_(8510A) signals to enable them to cover longer distances. They extend the communication distance by 4000 ft (1200 m) or extend the number of connected nodes by 32.

RemoDAQ-8520/A/R/AR is an isolated converter for systems originally equipped with RS-232. It transparently converts RS-232 signals into isolated RS-422 or RS-485 signals. You don't need to change your PC's hardware or your software. The RemoDAQ-8520/A/R/AR lets you easily build an industrial grade, long distance communication system with standard PC hardware.

Intelligent RS-485 Control

The RS-485 standard supports half-duplex communication. This means that just two wires are needed to both transmit and receive data. Handshaking signals (such as RTS, Request

To Send) are normally used to control the direction of the data flow. A special I/O circuit in RemoDAQ-8520/A/R/AR and RemoDAQ-8510/8510A automatically senses the direction of the data flow and switches the transmission direction. No handshaking signals are necessary. So you can build an RS-485 network with just two wires. This RS-485 control is completely transparent to the user. Software written for half-duplex RS-232 works without modification.

Isolation

RemoDAQ-8510 series and RemoDAQ-8520 series provide 3000 VDC isolations to protect the host computer from ground loops and destructive voltage which would spike on the RS-485 data lines.

Surge Protection (RS-485 only)

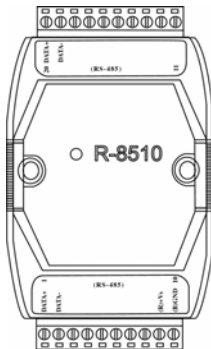
RemoDAQ-8510 series and RemoDAQ-8520 series offer internal surge-protection on their data lines. Internal high-speed transient suppressors on each data line protect the modules from dangerous voltages levels or spikes.

Tough Industrial Design

You can power RemoDAQ-8510 series and RemoDAQ-8520 series with any unregulated power source between +10 and +30Vdc. Their industrial-grade plastic shells can be mounted on a DIN-rail, panel or in a piggybacked stack. You make signal connections through plug-in screw terminal blocks,

guaranteeing easy installation, maintenance and modification.

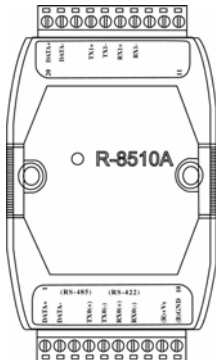
2 Pin Assignment & Specifications



RemoDAQ-8510: RS-485 repeater module

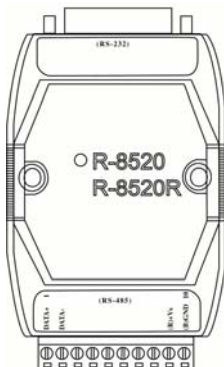
- Input: RS-485 (DATA+,DATA-)
- Output: RS-485 (DATA+,DATA-)
- Speed: “Self tuner” inside
- Multiple baudrate: 300 ~ 115200 bps
- Multiple data format
- Automatically adjust baudrate and data format
- 3000 VDC isolated voltage
- Power: 10V~30 VDC
- Power consumption: 2.2W (max)

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RemoDAQ-8510A: RS-485/422 repeater module

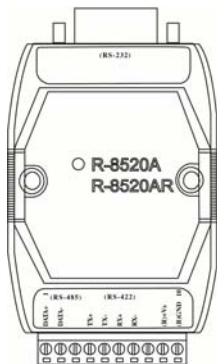
- Input: RS-485/RS-422
- Output: RS-485/RS-422
- Speed: “Self tuner” inside
- Multiple baudrate: 300 ~ 115200 bps
- Multiple data format
- Automatically adjust baudrate and data format
- 3000 VDC isolated voltage
- Power: 10V~30 VDC
- Power consumption: 2.2W (max)



RemoDAQ-8520/R: RS-232 to RS-485 Converter

- Protocol: 2-wire RS-485 (DATA+,DATA-)
- Connector: plug-in screw terminal block
- Output: RS-485 (DATA+,DATA-)
- Speed: “Self tuner” inside, auto switching
- Multiple baudrate: 300 ~ 115200 bps
- 256 modules max in one RS-485 network without repeater
- Isolated voltage: 3000 VDC
- Isolated site: RS-232 (RemoDAQ-8520)
- Isolated site: RS-485 (RemoDAQ-8520R)
- Distance: 1200m
- Power: 10V~30 VDC
- Power consumption: 2.2W (max)

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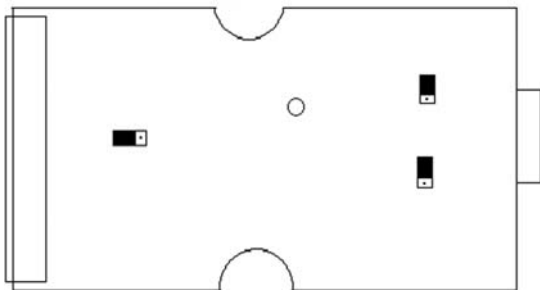


RemoDAQ-8520A/AR: RS-232 to RS-422/485 Converter

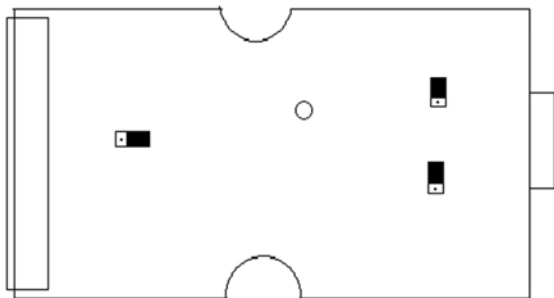
- Protocol: RS-422/485
- Connector: plug-in screw terminal block
- Output: RS-485 (DATA+,DATA-)
- Speed: “Self tuner” inside, auto switching
- Multiple baudrate: 300 ~ 115200 bps
- 256 modules max in one RS-485 network without repeater
- Isolated voltage: 3000 VDC
- Isolated site: RS-232 (RemoDAQ-8520A)
- Isolated site: RS-422/485 (RemoDAQ-8520AR)
- Distance: 1200m
- Power: 10V~30 VDC
- Power consumption: 2.2W (max)

3 Jumper Setting (RemoDAQ-8520 Series)

RS-422:

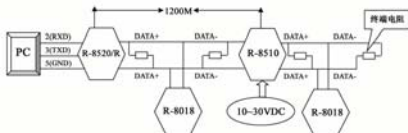


RS-485:

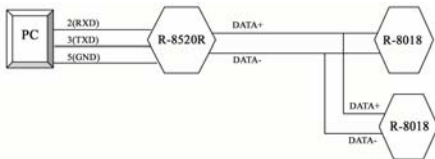


4 Wire Connection

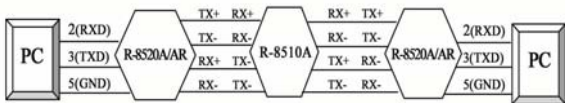
4.1 RemoDAQ-8510



4.2 RemoDAQ-8520/8520R



4.3 RemoDAQ-8510A



4.4 RemoDAQ-8520A/8520AR

