

GT200-DP-RS (Universal Serial/PROFIBUS DP Gateway) FAQ

Technical Support

V1.0

Version record:

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V1.0	9-12-2011	Original version

1. How to supply power to the product GT200-DP-RS? How to wire?

- GT200-DP-RS is of wide voltage input: 11V to 30V (DC), the standard voltage is 24V (80MA), the positive pole of the power supply connects to "24V+", GND connects to "24V_GND".
- GT200-DP-RS has a RS485 interface and a RS232 interface, the positive and negative pole of RS485 data pin have to be connected with the positive pole and negative pole of the connected device, RX of RS232 has to be connected with RX of the connected device, TX of RS232 has to be connected with TX of the connected device, GND of RS232 has to be connected with GND of the connected device, otherwise the gateway is unable to communicate.
- The PROFIBUS DP interface of GT200-DP-RS has a DB9 pass connector, pin 3 means data positive, pin 8 means data negative, pin 5 means GND. User should connect the data positive, data negative and GND of the PROFIBUS DP master to the data positive, data negative and GND of GT200-DP-RS when wiring.

2. How to enter the configuration mode?

- Connect the RS232 interface of GT200-DP-RS to the COM interface of PC.
- Set the DIP switch to status 01.
- Power on GT200-DP-RS and enter the configuration mode("CF" lights always on).
- The user can use the configuration software SST-MPG-CFG to configure the Modbus scan command.

3. How to configure SST-MPG-CFG?

- First of all, user need to confirm whether the user device accords with the standard Modbus protocol, if it works under the "Subnet", then select the "Modbus master" mode or "Modbus slave" mode, if it does not accord with the standard protocol (customize protocol), then choose the "universal mode".
- User can set other parameters and read/write commands according to your needs, but you should use the RS232 interface to upload or download the configuration.
- After finishing the configuration, download the configuration and restart the gateway (Power off and power on).

4. Where to configure the input bytes and output bytes of PROFIBUS DP? (Take the Step7 of Siemens as an example)

- First import the GSD file of our product into the Step7.
- Find the product that has been registered in the catalog of the Step7, then drag the product to the PROFIBUS DP bus and set the address of GT200-DP-RS which works as the PROFIBUS DP slave.
- Find the number of input and output bytes which you need in data blocks, then drag it into the slot at the lower left.
- Save and compile the configuration, and then download the configuration to PLC.

5. How to keep accordant between the PROFIBUS DP address of the gateway and the address of the Step7?

- Double click on the button to enter the menu mode, long press the button for more than 2.5s to

enter the setup status of PROFIBUS DP address (the high bit of digital tube keeps flashing, the low bit lights always on), click on the button and the number will plus one, long press the button for more than 2.5s to switch to the setup status of low-bit address, click on the button and the number will plus one, long press the button for more than 2.5s to save the new address and make the new address take effect.

6. How to use the debug function of GT200-DP-RS?

- First set the double-bit DIP switch to “1 0”, the digital tube will show “db”.
- Connect the debugging interface that has been configured (RS485 or RS232, configure it under the configuration mode) with PC.
- User does not need to use PLC to check whether the data transmission is normal, open the debugging interface of the software.

7. How does the PROFIBUS master transmit data and check the data received under the “universal mode” of GT200-DP-RS?

- Sending format: “Transaction number + length of data (under the configuration mode, user can configure whether it will act)” + data
- Receiving format: “Transaction number + length of data” + data

8. How to read and write the gateway data in the Step7 (take the “Modbus master” as an example)?

- After dragging the data blocks of GT200-DP-RS into the PROFIBUS DP bus (the configuration interface of the Step7), the software will distribute an original input address (I address) and an original output address (Q address) to the data blocks automatically, these two addresses can be modified manually and they correspond to the original address of the memory input area and the memory output area of GT200-DP-RS respectively. The original address of the memory input area of GT200-DP-RS is 0H and the original address of the memory output area is 4000H. In the PLC program, visit the memory input area of the gateway to read and write data by means of visiting the I address and visit the memory output area of the gateway to read and write data by means of visiting the Q address.

9. In the Step7, how to select the data blocks of Consistent?

- Take “2 words Input Consistent” as an example, when user selects this data block, in the PLC program, it is necessary to read and write the address of the data via “SFC14, SFC15”. When one certain data of the Modbus slave device is 2 words and requires the real-time and accuracy of reading the data of PLC, generally you should select “2 words Input Consistent” instead of “2 words Input”, so PLC will read and write the entire data blocks when reading the data, it can avoid errors of data due to the data jump in process of the data transmission.
- Under the universal mode, generally you should select the data blocks of Consistent.

10. How to confirm that the communication is normal from the gateway?

- The STA green light is flashing and the PBF red light is off, it means the PROFIBUS DP communication is normal, if it is abnormal, the probable reasons lie as below:

1. It doesn't wire well in PROFIBUS DP, the data positive and data negative and GND don't have a corresponding connection.
2. The PROFIBUS DP slave address that has been configured by the Step7 doesn't accord with the PROFIBUS DP address that shows in the gateway.
3. When the communication distance is far or the baud rate is high, it is necessary to parallel a terminal resistance of 120 ohms between the data positive and the data negative of the

terminal device of the PROFIBUS DP network.

- RX and TX are flashing, it means that the transmission and reception of the data are normal, if they are abnormal, the probable reasons lie as below:

1. If you use RS485 to communicate, check the wiring, the data positive and data negative have to accord with the data positive and data negative of the connected device.(if the device is RS422, configure the communication interface to RS485 interface under the configuration mode)
 2. If you use RS232 to communicate, check whether RX is connecting with TX, TX is connecting with RX and GND is connecting with GND.
 3. Check whether all the addresses, baud rates and communication forms of the connected device accord with the configuration of the Gateway.
11. The indicator light is flashing normally, why still exist errors of data?
- Maybe the data address that the PROFIBUS DP master visits does not accord with the mapping address of the actual data.
 - “response timeout” and “inter-frame delay” are too short(the situation of the Modbus master).