
GCAN-203

Bluetooth -CAN converter

User manual



Document version: V3.20 (201704/09)

Contents

| | |
|--|----|
| 1. Introduction..... | 1 |
| 1.1 Overview..... | 1 |
| 1.2 Properties at a glance..... | 1 |
| 2. Installation..... | 1 |
| 2.1 Power connection and indicator status..... | 1 |
| 3. CANBlue config software..... | 2 |
| 3.1 Configuration..... | 2 |
| 3.2 Software connection..... | 2 |
| 3.3 CAN parameter setting..... | 3 |
| 3.4 Bluetooth parameter settings..... | 5 |
| 3.5 End of configuration..... | 6 |
| 3.6 Save the configuration file..... | 6 |
| 3.7 Open the configuration file..... | 6 |
| 4. Application examples..... | 7 |
| 4.1 Equipment wiring..... | 7 |
| 4.2 Bluetooth connection..... | 7 |
| 5. Technical specifications..... | 11 |
| Appendix: GCAN-203 data flow definition..... | 12 |
| Sales and service..... | 13 |

1. Introduction

1.1 Overview

GCAN-203 has a standard CAN-Bus interface. GCAN-203 can send CAN-Bus data to other equipment with Bluetooth.

1.2 Properties at a glance

- CAN-Bus baud rates range from 5Kbps to 1Mbps
- CAN-Bus isolation module insulation voltage: DC 1500V
- Maximum data traffic: 300 frames per second
- Bluetooth using 2.0
- Power supply: 9~30V (20mA, 24V DC)
- Installation method: DIN rail
- Working temperature range: -40 °C ~ +85 °C;
- Size: (L) 112mm * (W) 70mm * (H) 25mm.

2. Installation

GCAN-203 interface shown in figure 2.1.



Figure 2.1 GCAN-203 interface definition

2.1 Power connection and indicator status

GCAN-203 recommends using standard 24V power supply. GCAN-203 has three indicator lights, 1 PWR, 1 SYS, 1 CAN. The functions of the three indicators are shown in table 2.2, the indicators in different states, the converter status shown in table 2.3.

| LED | Color | Indicates the status |
|-----|-----------|---------------------------------|
| PWR | Green | Power indicator |
| SYS | Green | Bluetooth connection indication |
| CAN | Red/Green | CAN status indication |

Table 2.2 GCAN-203 Indicators

| LED | Status | Indicates the status |
|-----|----------------|------------------------------------|
| PWR | On | Power is normal |
| | Off | Power is not normal |
| SYS | Blinking | No equipment connected |
| | Slow blinking | Equipment connection is successful |
| CAN | Blinking red | CAN communication error |
| | Blinking green | CAN communication is normal |

Table 2.3 GCAN-203 indicator status

3. CANBlue config software

3.1 Configuration

Disconnect the GCAN-203 power supply. We can connect to GCAN-203 and computer with USB. When GCAN-203 is configuring, no external power is required.

GCAN-203 factory setting: CAN-Bus baud is 250K, working mode is normal mode, name is SN number, password is 1234.

3.2 Software connection

Open "CANBlue Config" software in the "②CANBlue 模块配置软件" document to configure the converter. Click "Connect" to connect the converter. The connection is shown in figure 3.1.

You can click "UpLoad" to upload the parameters in the converter to your computer.

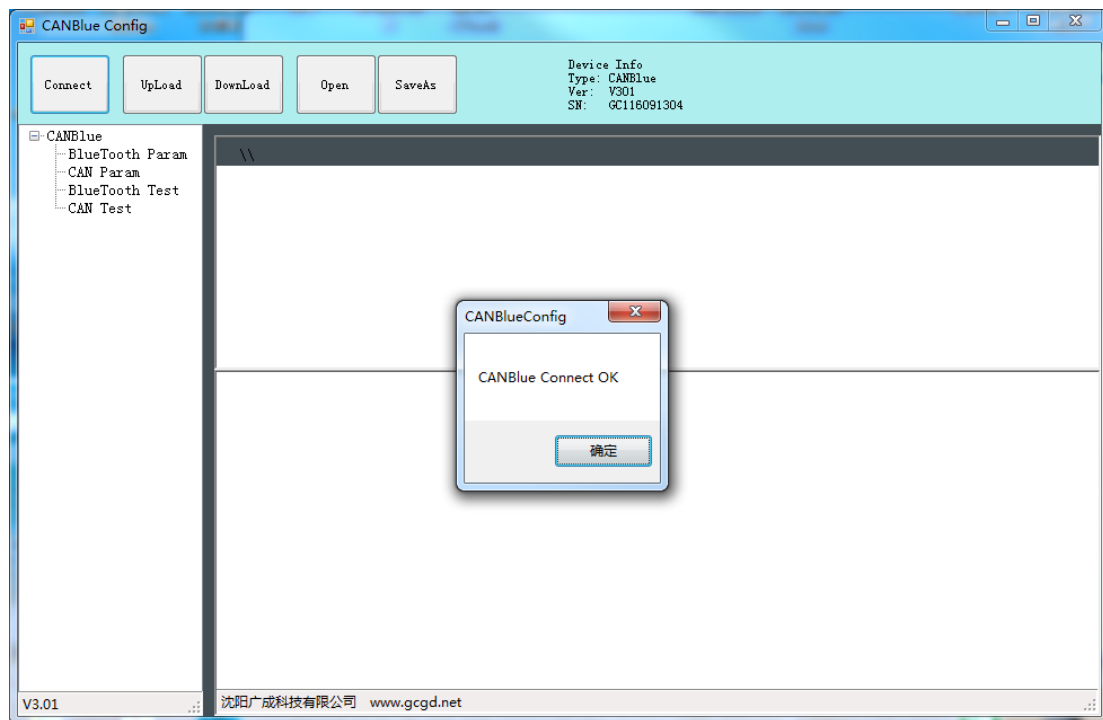


Figure 3.1 CANBlue Config software interface

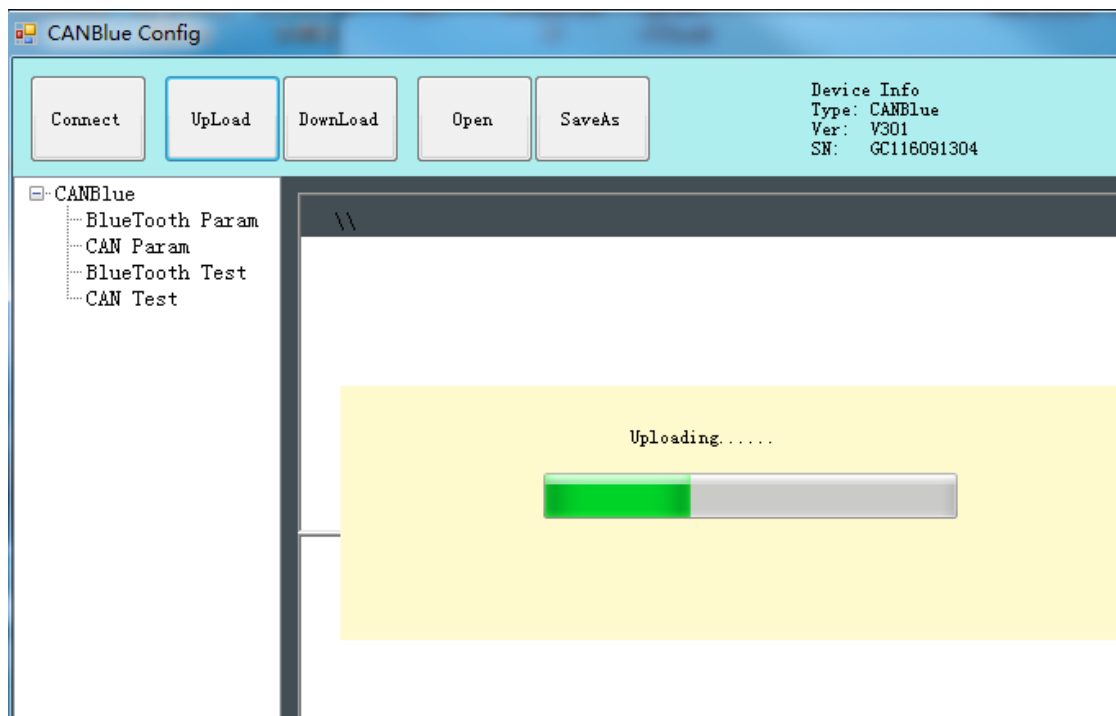


Figure 3.2 CANBlue Config software upload parameters

3.3 CAN parameter setting

Click "CAN Param" to enter CAN communication parameter setting. We can click "CAN Baud" to configure the baud rate of the CAN-Bus, as shown in the following

table.

| Parameter | Baud rate | Parameter | Baud rate |
|-----------|-----------|-----------|-----------|
| 0 | 1000K | 1 | 800K |
| 2 | 666K | 3 | 500K |
| 4 | 400K | 5 | 250K |
| 6 | 200K | 7 | 125K |
| 8 | 100K | 9 | 80K |
| 10 | 50K | 11 | 40K |
| 12 | 20K | 13 | 10K |
| 14 | 5K | | |

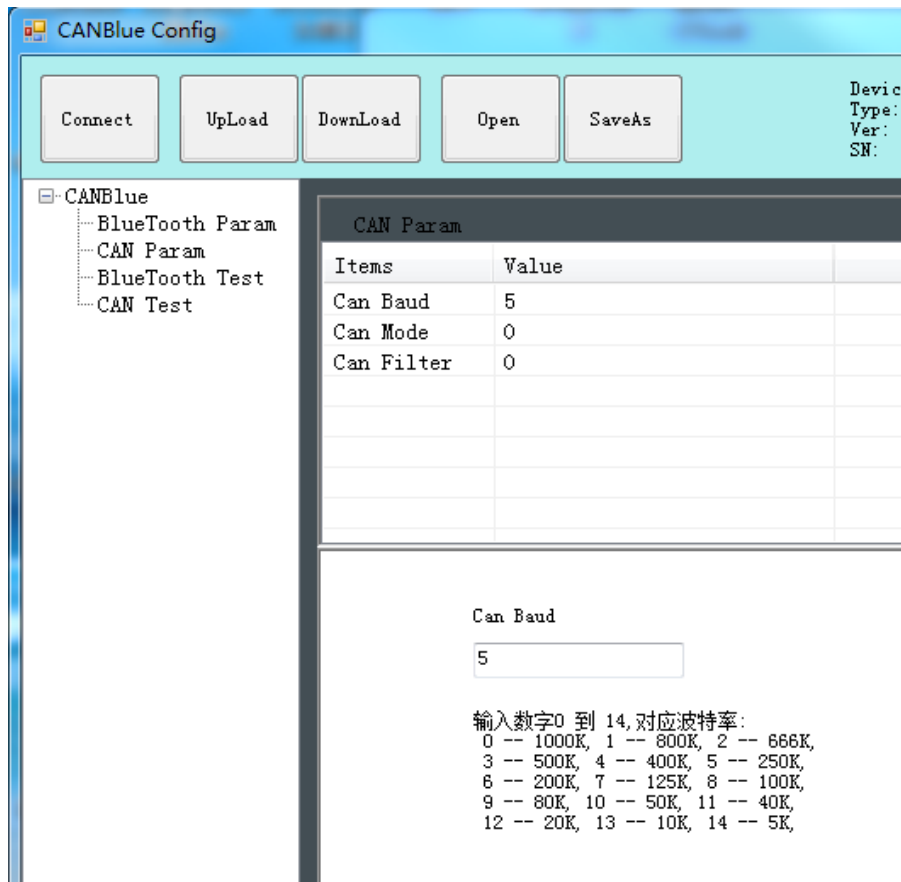


Figure 3.3 CAN baud rate setting

The default value of “CAN Mode” or “CAN Filter” is set to 0, and please do not change it.

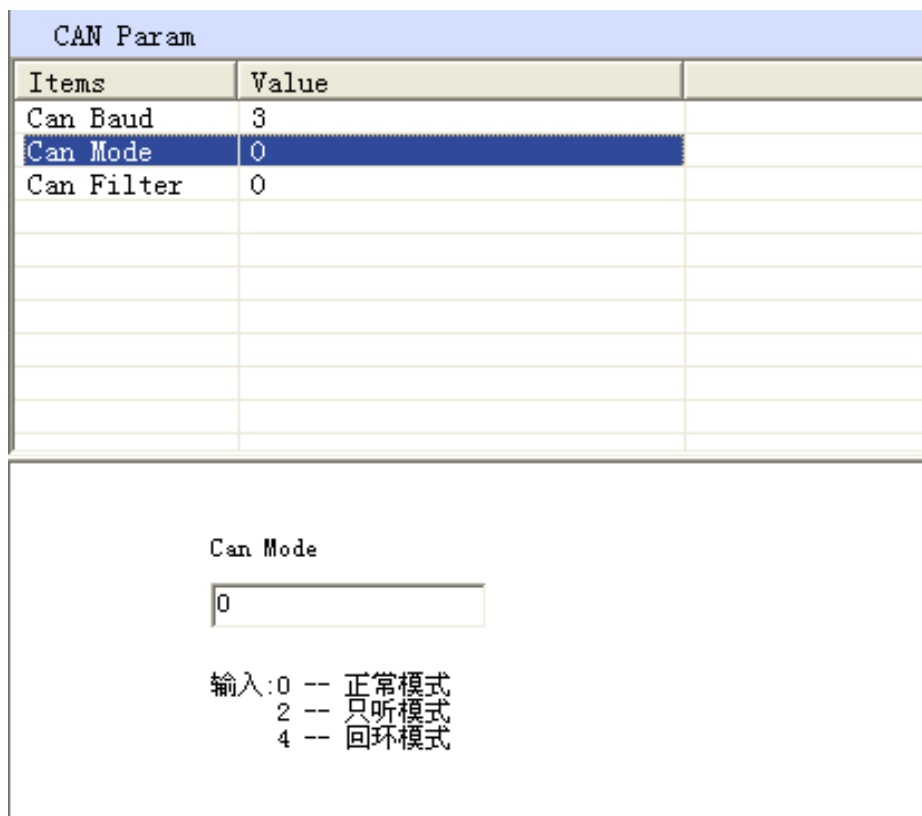


Figure 3.4 CAN operating mode setting

3.4 Bluetooth parameter settings

Click "Bluetooth Param" to enter the Bluetooth parameter settings.

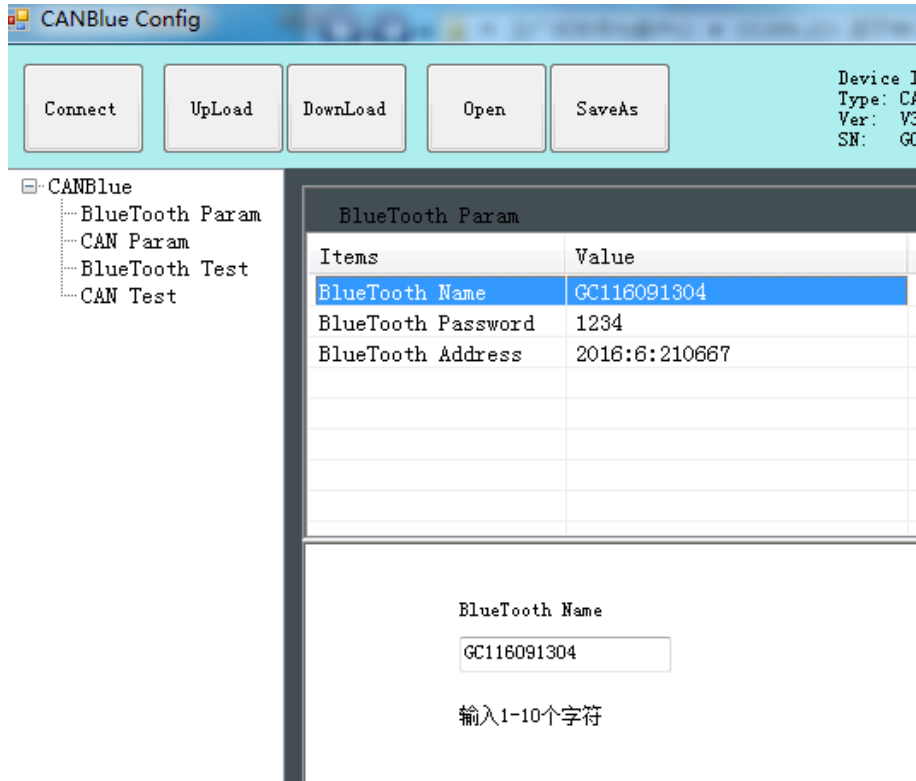


Figure 3.5 Bluetooth settings

The user can set the GCAN-203's name and connection password. GCAN-203's default name is SN number, password is 1234.

3.5 End of configuration

Click "Download" to write the configuration data to the converter's flash, as shown in figure 3.6.

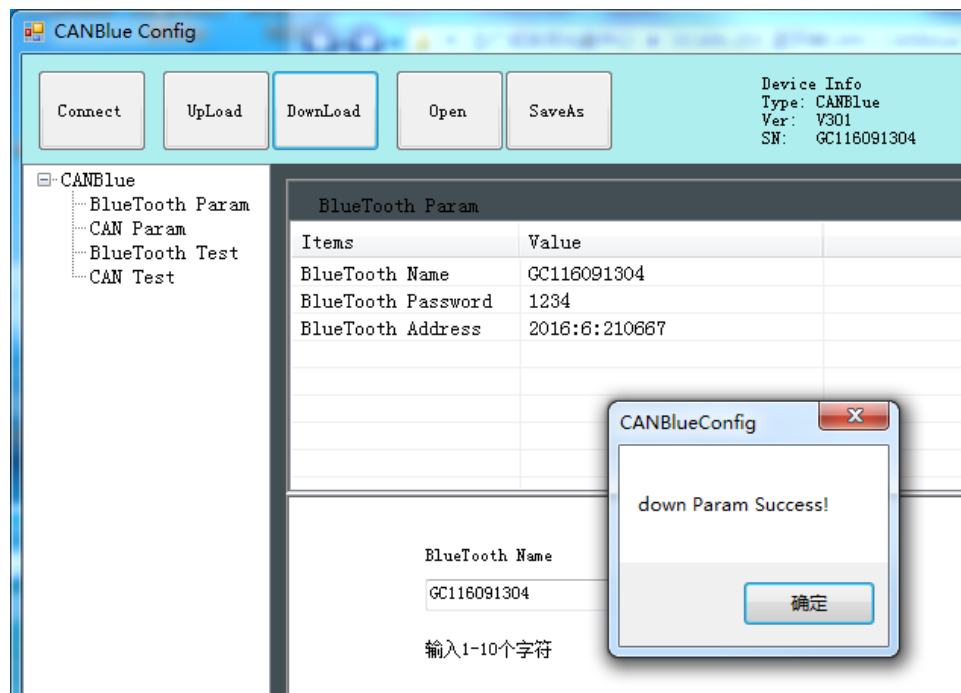


Figure 3.6 Download successful

The pop-up dialog displays "download Param success". Then power-on again. The new configuration can take effect.

Note: The converter must be power-on again, otherwise the configuration will not take effect.

3.6 Save the configuration file

Click "SaveAs" to save the configuration parameters to the PC. The file can be opened again.

3.7 Open the configuration file

Use the "OPEN" function to open the configuration file and modify it. Then you can click DownLoad to the converter that the new configuration can be saved.

Note: The working mode of "BlueTooth Test" and "CAN Test" is used for testing. These functions cannot be used.

4. Application examples

4.1 Equipment wiring

GCAN-203 uses 9-30V DC power supply.

Connect CAN_H to CAN-Bus CAN_H, CAN_L to CAN-Bus CAN_L. A High-speed CAN bus must be terminated on both ends with 120 Ohms. Otherwise disturbances may arise.



Figure 4.1 The wiring diagram of GCAN-203

As shown in figure 4.1, the left side of the equipment is USBCAN-II Pro. Wiring and termination resistance must be confirmed correctly. Open USBCAN-II Pro equipment with ECANtools software, then select the baud rate to 250K.

4.2 Bluetooth connection

Install "CANBlue.RSO.apk" APP to a mobile phone with android which is in the "③ 安卓系统串口助手安装包" document. Search for Bluetooth equipment, then enter the connection password.

4.3 Bluetooth serial assistant use

4.3.1 Connect to GCAN-203

Open the software, the interface is shown in figure 4.2. The function of the four buttons will be shown here:

蓝牙开关——Turn on Bluetooth or turn off Bluetooth.

搜索设备——Click “搜索设备”. You can find all the converters that opened Bluetooth, only the converter name turn blue can be connected. (GCAN-203's default name is SN number, password is 1234)

版本升级——Not open yet.

侦听连接——Not open yet.

Enter the receive / send data interface, as shown in figure 4.3.



Figure 4.2 Software interface



Figure 4.3 Main interface for sending and receiving data

4.3.2 Send and receive data for example

The following is a brief introduction to the received / sent data format. Please refer to the **appendix** for detailed data format.

| Data description | For example |
|--------------------------------|-------------------------|
| CAN Frame Information (FF、RTR) | 0 |
| CAN Frame Information (DLC) | 8 |
| CAN Frame ID | 00 00 07 00 |
| CAN Frame Date | 11 22 33 44 55 66 77 88 |

The CAN frame Information(FF, RTR) represents the frame format and frame type of the CAN frame. The specific values are shown in the following table; the CAN frame Information (DLC) represents the byte length of the CAN frame data. According to the actual needs , it fills 0 to 8.

Example of special data transmission: table 4.1.

- 1.The mobile equipment sends data to the CAN terminal, DLC is 2 bytes less than 8 bytes of data(11 22 33 44 55 66 77 88), CAN receives 2 bytes of data (11 22).
- 2.The mobile equipment sends data to the CAN terminal, DLC is 8 bytes more than 4 bytes of data(11 22 33 44), CAN receives 8 bytes of data (11 22 33 44 XX XX XX

XX)(XX is used for the filling, which is meaningless).

3.CAN sends data to the mobile equipment, and CAN terminal sends 4 bytes of standard data frame (11 22 33 44). The mobile equipment receives 8 bytes of frame data (11 22 33 44 XX XX XX XX)(XX is used for the filling, which is meaningless).

| | Data transfer direction | Data |
|----------|----------------------------------|--|
| 1 | The mobile equipment is sender | 02 00 00 00 08 11 22 33 44 55 66 77 88 |
| | CAN is receiver | Data length 2 bits, Frame ID: 008 Frame data: 11 22 |
| 2 | The mobile equipment is sender | 08 00 00 00 08 11 22 33 44 |
| | CAN is receiver | Frame ID: 008 Frame data:11 22 33 44 XX XX XX XX |
| 3 | CAN is sender | Data length 4 bits, frame ID: 008, Frame data:11 22 33 44 |
| | The mobile equipment is receiver | 04 00 00 00 08 11 22 33 44 XX XX XX XX |

Table 4.1 Example of special data transmission

5. Technical specifications


| Connection | |
|----------------------------------|--|
| CAN interface | Phoenix connector |
| Interface characteristics | |
| CAN interface | ISO 11898 standard, CAN2.0A/B |
| CAN baud rate | 1000K, 500K, 250K, 200K, 125K, 100K, 50K |
| Electrical isolation | 1500V, DC-DC |
| CAN terminal | Need additional installation |
| Wireless parameters | |
| Bluetooth | Bluetooth 2.0 |
| Power supply | |
| Supply voltage | +9~30V DC |
| Supply current | 30mA |
| Environmental testing | |
| Working temperature | -40°C ~+85°C |
| Working humidity | 15% to 90% RH, no condensation |
| EMC test | EN 55024:2011-09 EN 55022:2011-12 |
| Protection grade | IP 20 |
| The basic information | |
| Outline size | 112mm *70mm *25mm |
| Weight | 100g |

Appendix: GCAN-203 data flow definition

Bluetooth→CAN-bus data flow definition

A CAN frame contains 13 bytes.



 CAN frame, For example, type or length of the CAN frame, and so on.
 BIT7 BIT0




FF: Identifier for standard and extended frames, 1 means extended frame, 0 means Standard frame.

RTR: Remote frame and data frame identification bit, 1 means extended frame, 0 means Standard frame.

Reserve: Retention value is always 0.

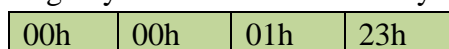
B3~B0 : Data length. Identifying the data length of the CAN frame.

 Frame ID. Its length is 4 bytes. Standard frame's ID has 11 bits; extended frame's ID has 29bits.

High byte Low byte




High byte Low byte



Representation of extended frame ID
 0X12345678

Representation of standard frame ID
 0X123

 Frame data. Its length is 8 bytes. The effective length is determined by the B3~B0 value of the frame information.

DATA1

DATA8



The above is a typical representation of data, which has 8 bytes.

DATA1

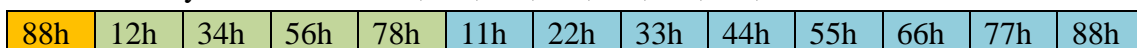
DATA8



The above is a typical representation of data, which has 5 bytes.

Example:

The following example is an extended data frame, Frame ID is 0x12345678, Contains 8 bytes of data. (11h,22h,33h,44h,55h,66h,77h,88h) .



Note: each frame is fixed to 13 bytes. If it is less than 13, the empty parts will be written with 0. Otherwise it will lead to communication error.

Sales and service

Shenyang Guangcheng Technology Co., Ltd.

Address: Industrial Design Center, No. 42 Chongshan
Middle Road, Huanggu District, Shenyang
City, Liaoning Province.



QQ: 2881884588

E-mail: 2881884588@qq.com

Tel: +86-024-31230060

Website: www.gcgd.net

Sales and service Tel: +86-18309815706

After - sales service telephone Number: +86-13840170070

WeChat Number: 13840170070