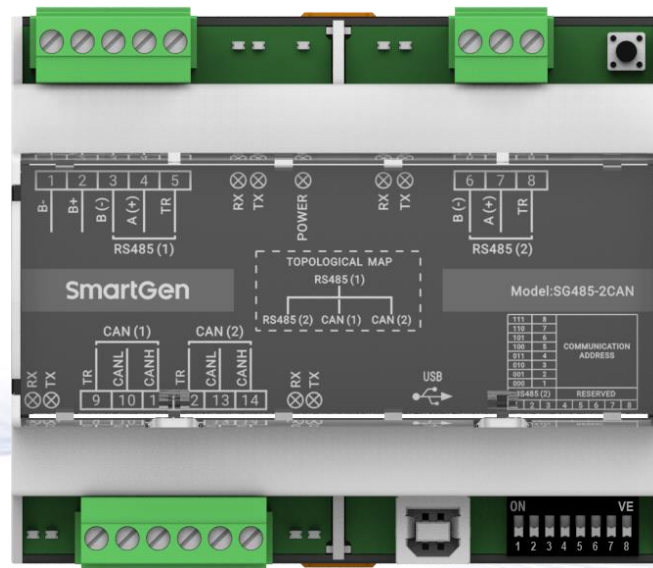# SmartGen
MAKING CONTROL SMARTER

SG485-2CAN

COMMUNICATION INTERFACE CONVERSION MODULE

USER MANUAL

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SmartGen **Registered trademark**

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Table 1 Software Version

Date	Version	Note
2021-08-18	1.0	Original release.
2021-11-06	1.1	Modify some descriptions.
2021-01-24	1.2	Modify the error in Fig.2.
2023-08-17	1.3	Modify the DIP switch setting of Table 5 and electrical connection diagram of Figure 2.

CONTENTS

1 OVERVIEW

SG485-2CAN is a communication interface conversion module, which has 4 interfaces, namely RS485 host interface, RS485 slave interface and two CANBUS interfaces. It is used to convert 1# RS485 interface to 2# CANBUS interfaces and 1# RS485 interface. The RS485 communication address, CAN baud rage and CAN_ID is set by DIP switch to distinguish different units, which is convenient for users to do monitoring and data collection.

2 PERFORMANCE AND CHARACTERISTICS

Its main characteristics are as follows:

- With 32-bit ARM SCM, high hardware integration, improved reliability;
- 35mm guide rail installation method;
- Modular design and pluggable connection terminals; compact structure with easy mounting.

3 SPECIFICATION

Table 2 Performance Parameters

Items	Contents
Working Voltage	DC8V~DC35V
RS485 Interface	Baud rate: 9600it/s Stop bit: 2-bit Parity bit: None
CANBUS Interface	1.250kbit/s 2.100kbit/s 3.125kbit/s
Case Dimension	107.6mmx93.0mmx60.7mm (LxWxH)
Working Temperature	(-40~+70)°C
Working Humidity	(20~93)%RH
Storage Temperature	(-40~+80)°C
Protection Level	IP20
Weight	0.2kg

4 WIRING
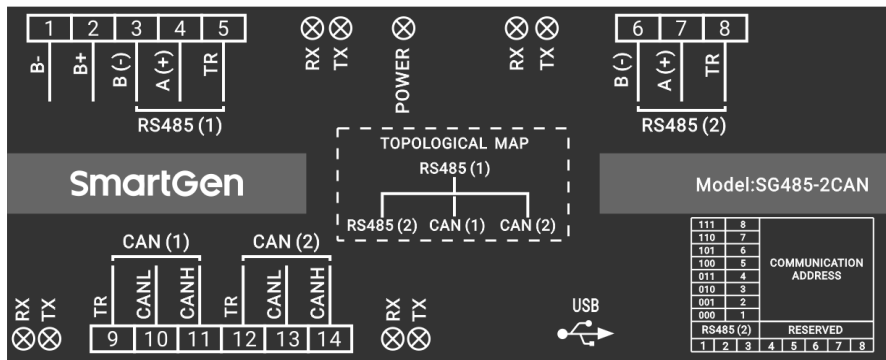
Fig.1 Mask Diagram

Table 3 Indicators Description

| No.	Indicator	Description
1.	POWER	Power indicator, always on when powered on.
2.	TX	RS485/CANBUS interface TX indicator, it flashes 100ms when sending data.
3.	RX	RS485/CANBUS interface RX indicator, it flashes 100ms when receiving data.

Table 4 Wiring Terminals Description

No.	Function		Cable Size	Remark
1.	B-		1.0mm^2	DC power negative.
2.	B+		1.0mm^2	DC power positive.
3.	RS485(1)	B(-)	0.5mm^2	RS485 host interface communicates with controller, TR can be short connected with A(+), which is equivalent to connecting 120Ω matching resistance between A(+) and B(-).
4.		A(+)		
5.		TR		
6.	RS485(2)	B(-)	0.5mm^2	RS485 slave interface communicates with PC monitoring interface, TR can be short connected with A(+), which is equivalent to connecting 120Ω matching resistance between A(+) and B(-).
7.		A(+)		
8.		TR		
9.	CAN(1)	TR	0.5mm^2	CANBUS interface, TR can be short connected with CANH, which is equivalent to connecting 120Ω matching resistance between CANL and CANH.
10.		CANL		
11.		CANH		
12.	CAN(2)	TR	0.5mm^2	CANBUS interface, TR can be short connected with CANH, which is equivalent to connecting 120Ω matching resistance between CANL and CANH.
13.		CANL		
14.		CANH		
/	USB	Software download and upgrade interface	/	/

Table 5 Communication Address Setting

DIP Switch Setting								
Functions	RS485(2) Address			Reserved	CAN Baud Rate		CAN_ID	
DIP Switch No.	1	2	3	4	5	6	7	8
DIP Switch Combination and Corresponding Relationship	000：1			Reserved	00：250kbit/s		00：0x40	
	001：2							
	010：3				01：100kbit/s		01：0x41	
	011：4							
	100：5				10：125kbit/s		10：0x42	
	101：6							
	110：7				11：Reserved		11：0x43	
	111：8							
Note: When modifying the CAN baud rate, disconnect CAN communication, the data transmission indicator will light off for 3s, when the data transmission indicator flashes normally, connect with CAN interface for communication. In addition, it is advisable to power on the device after the CAN baud rate is modified.								

5   ELECTRICAL CONNECTION DIAGRAM
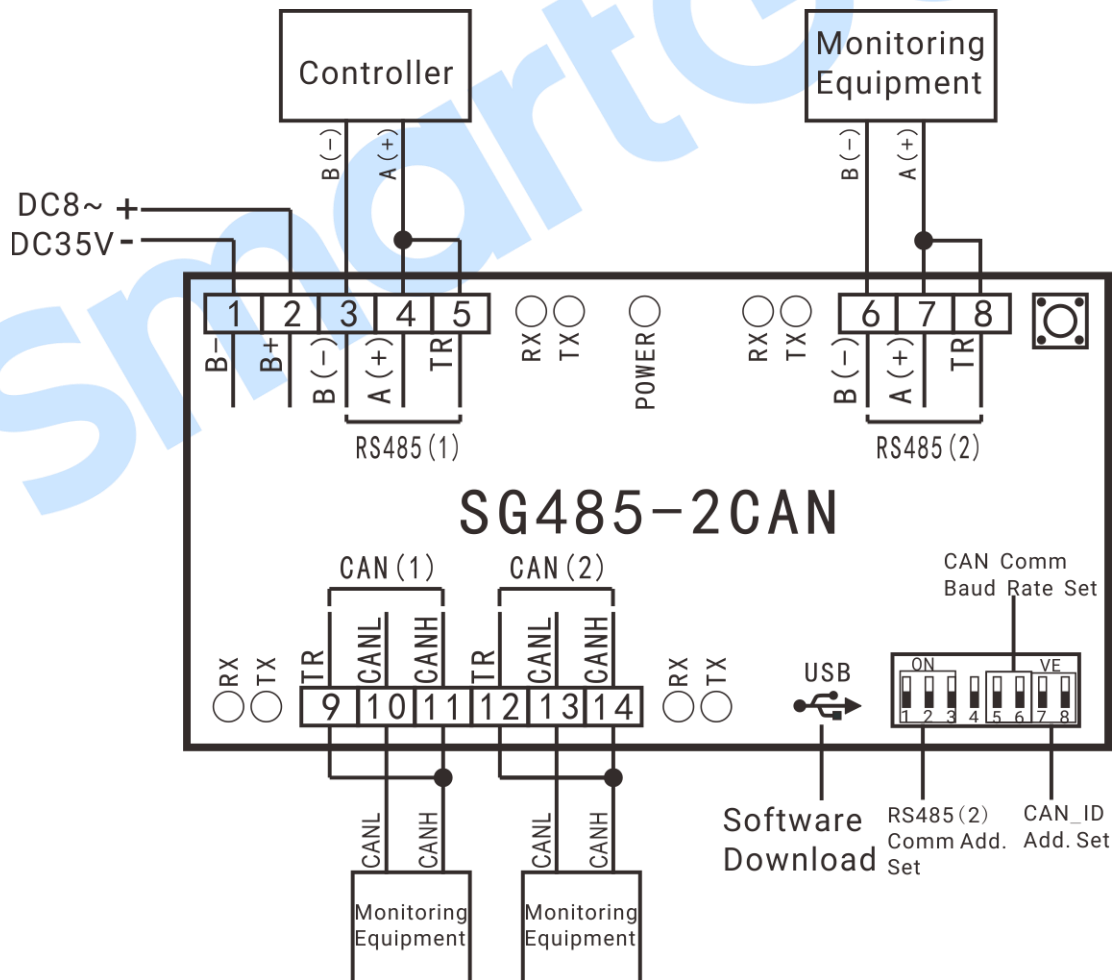
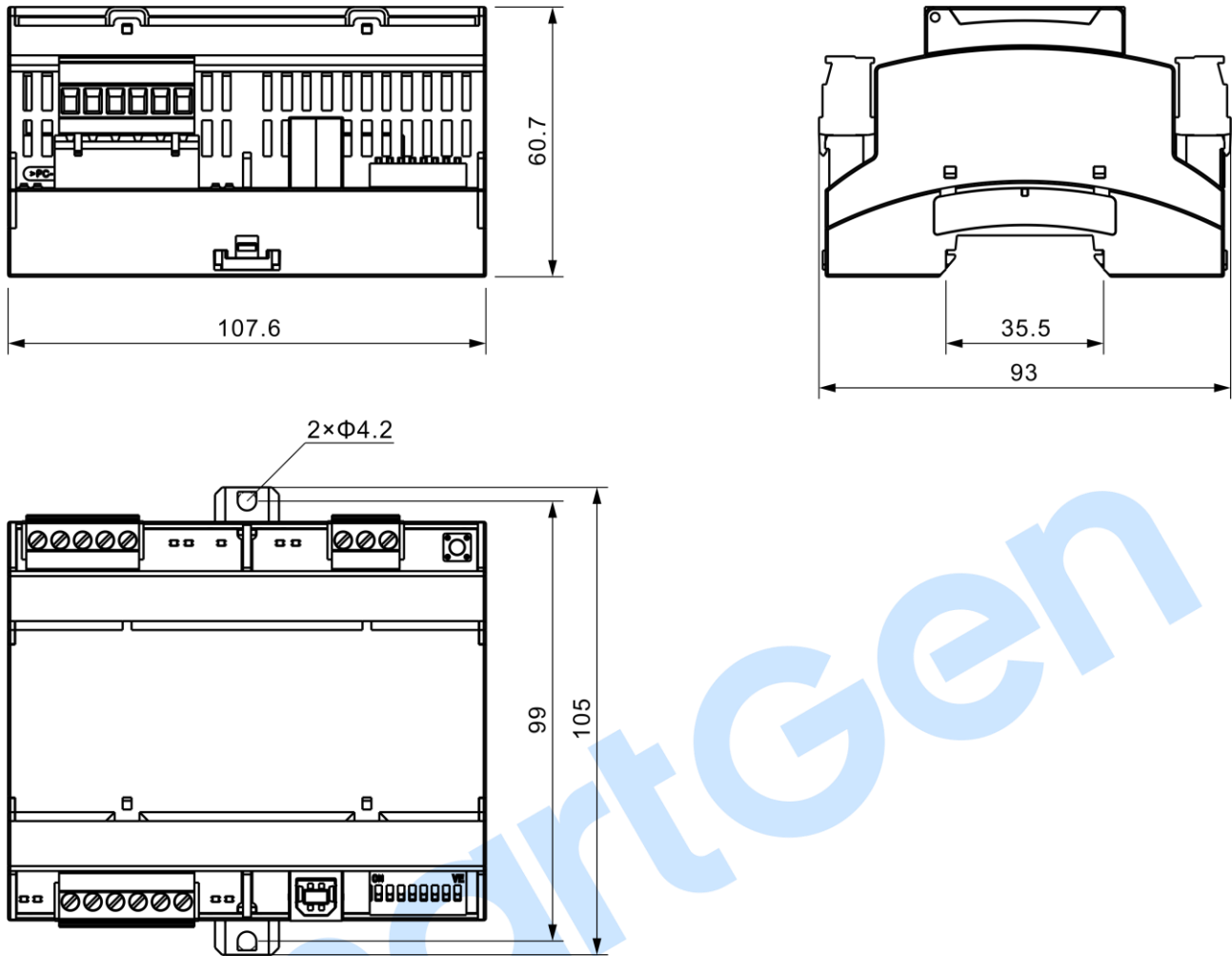**Fig.2 Electrical Connection Diagram**

6 OVERALL DIMENSION AND INSTALLATION

Fig.3 Overall Dimension and Installation (Unit: mm)

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