SG485-3

INTERFACE EXPANSION MODULE

USER MANUAL

SMARTGEN (ZHENGZHOU) TECHNOLOGY CO., LTD.

Chinese trademark

English trademark

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Table 1 Software Version

Date	Version	Note
2021-06-08	1.0	Original release.
2021-07-19	1.1	Update pictures in the manual.
2021-11-06	1.2	Update pictures in the manual.

CONTENTS

1 OVERVIEW

SG485-3 is the expansion module of RS485 interface, which has 3 interfaces, namely RS485 host interface, RS485 slave 1 interface, RS485 slave 2 interface. It can convert 1# RS485 interface to 2# RS485 interface, providing convenience for customers to monitor and collect data via Modbus-RTU protocol.

2 PERFORMANCE AND CHARACTERISTICS

Its main characteristics are as follows:

- With 32-bit ARM SCM, high hardware integration, improved reliability;
- DC(8~35)V continuous power supply;
- 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	DC(8~35)V
RS485 Interface	Baud rate: 9600bps, max. communication distance can reach 1,000m when 120Ω shielded twisted pair line is applied. Stop bit: 1-bit Parity bit: None
Case Dimension	71.6mmx92.7mmx60.7mm (LxWxH)
Working Temperature	(-40~+70)°C
Working Humidity	(20~93)%RH
Storage Temperature	(-40~+80)°C
Protection Level	IP20
Weight	0.14kg

4 WIRING

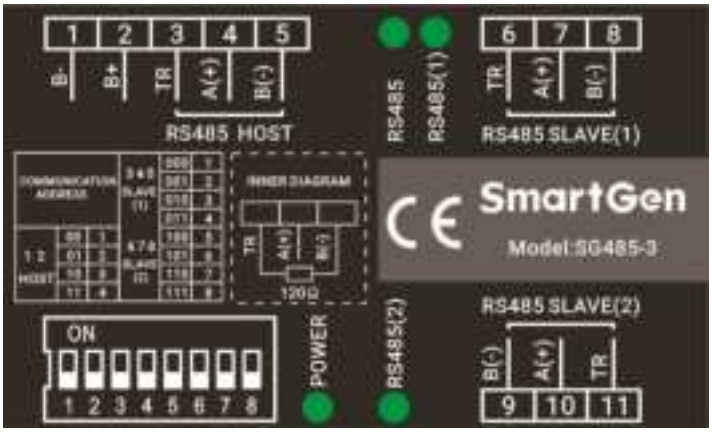

Fig.1 Mask Diagram

Table 3 Indicators Description

No.	Indicator	Description
1.	POWER	Power indicator, always on when powered on.
2.	RS485	RS485 HOST communication indicator, it flashes 100ms when sending or receiving data.
3.	RS485(1)	RS485 SLAVE(1) communication indicator, it flashes 100ms when sending or receiving data.
4.	RS485(2)	RS485 SLAVE(2) communication indicator, it flashes 100ms when sending or 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 HOST	TR	0.5mm^2	RS485 host interface communicates with controller, TR can be short connected with A(+), which is equivalent to connecting 120Ω matching resistor between A(+) and B(-).
4.		A(+)		
5.		B(-)		
6.	RS485 SLAVE(1)	TR	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 resistor between A(+) and B(-).
7.		A(+)		
8.		B(-)		
9.	RS485 SLAVE(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 resistor between A(+) and B(-).
10.		A(+)		
11.		TR		

Table 5 Communication Address Setting

Communication Address Setting								
Address	Host Address		Slave 1 Address			Slave 2 Address		
Dial Switch No.	1	2	3	4	5	6	7	8
Corresponding relation between dial switch combination and communication address	00:1		000:1			000:1		
	01:2		001:2			001:2		
	10:3		010:3			010:3		
	11:4		011:4			011:4		
	/		100:5			100:5		
	/		101:6			101:6		
	/		110:7			110:7		
	/		111:8			111:8		

5 ELECTRICAL CONNECTION DIAGRAM

This module is applied for the expansion of RS485 interface, which can convert 1# RS485 interface to 2# RS485 interface. Common connection examples are as follows:

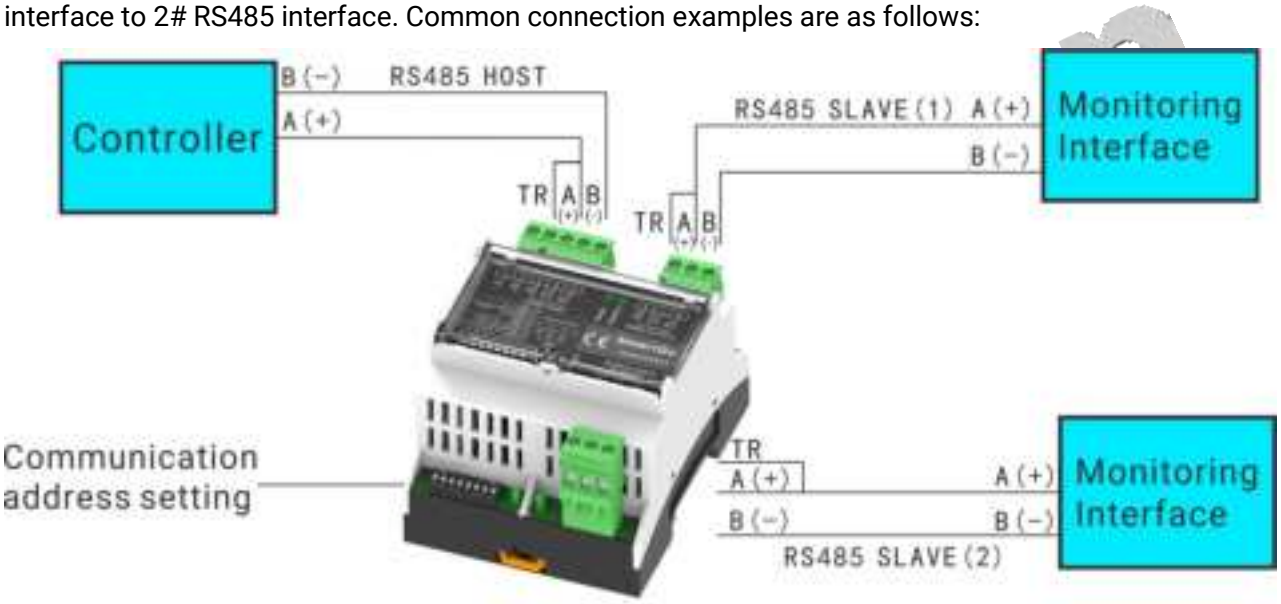

Fig.2 Electrical Connection Diagram

6 OVERALL DIMENSION AND INSTALLATION

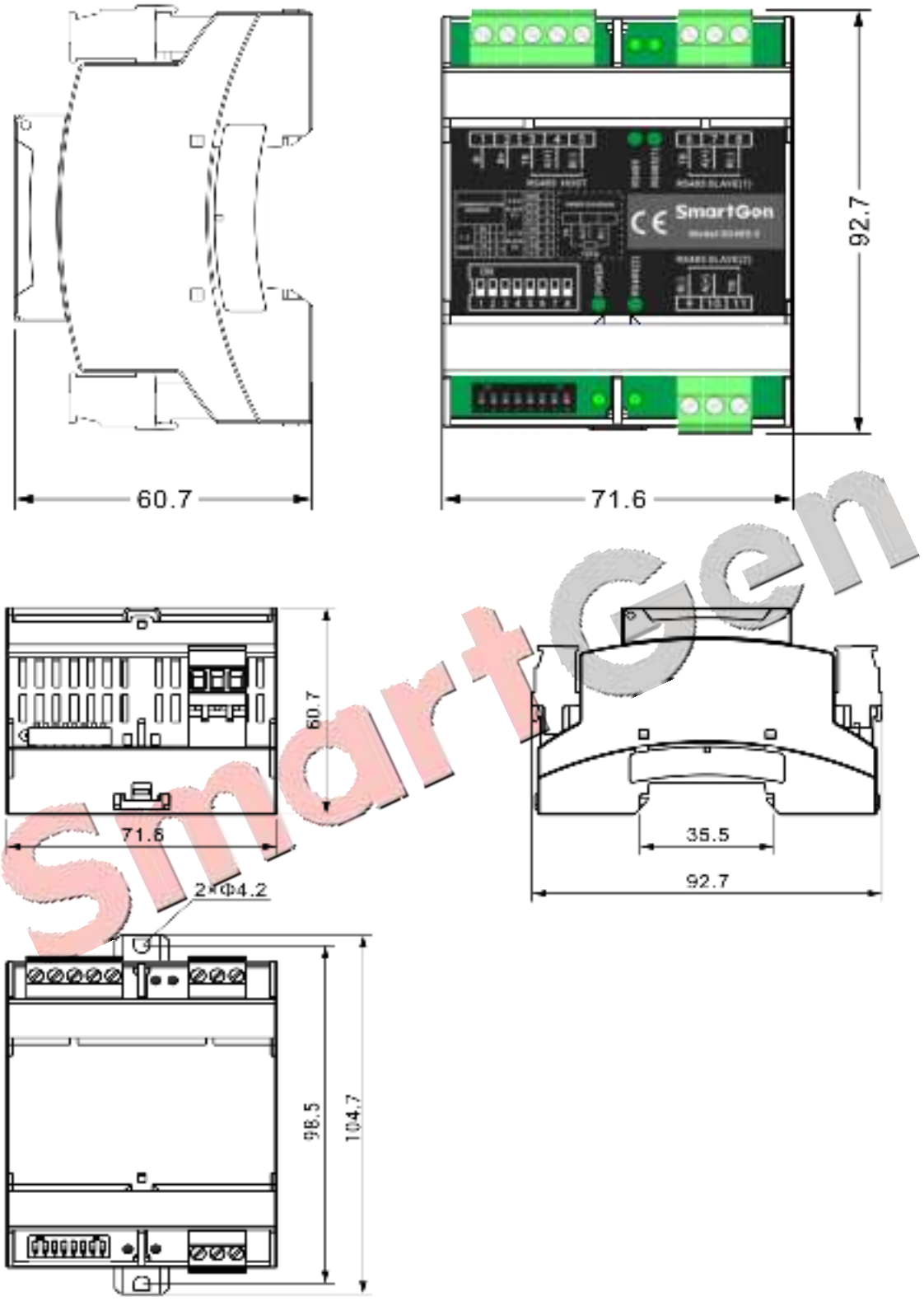

Fig.3 Overall Dimension and Installation (Unit: mm)