

Document Name: User Manual of SRS 201 M Serial Redundancy Switch

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1. INTRODUCTION

In Serial Communication, there is a constant risk of the link going down, hence resulting in loss of data. This problem becomes particularly grave when critical information is being communicated between two devices, and a constant uninterrupted connection is mandatory. The Redundancy switch helps maintain a loss-free communication link between communicating equipments also it will store receiving data on any port while the port is communicating with any other port.

2. OPERATION

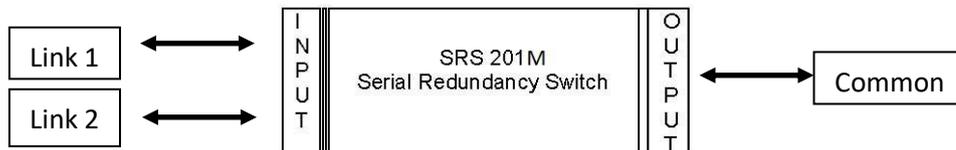


Figure 1

SRS 201 M is a Serial Redundancy Switch used for offering Redundancy to 2 RS485 ports. These switches allow 2 Serial RS485 Ports Devices e.g. Controllers / Computers / PLC's to share one Output (Common) Serial device.

Normally, the 2 Input ports are designated as Master or Slave port. The Output would be locked with the Master in a communication. SRS will continuously monitor this communication.

Two Masters at Link 1 , Link 2 Ports & One Slave at Common Port

Whichever Master (The device originating the Queries) sends the query first, the slave will respond to that Master after that SRS will check the query from second master. Both the Masters **can** send the query together.

Two Slaves at Link 1, Link 2 Ports & One Master at Common Port

The COMMON side of our Switch is connected to your Master device (The device originating the Queries). The query from the Master will be broadcasted to both the Slave ports & response from either port is sent to common port as it is received.

Precaution should be taken in field that no slave devices are having common bus address, so that they should not respond to the same query.

In the all the above options, Manual switching for higher priority jobs is also available.

DIP Switch settings detail-

- SW1, SW2-Baud rate selection

| SW1 | SW2 | Baud rate |
|-----|-----|-----------|
| OFF | OFF | 9600 |
| OFF | ON | 19200 |
| ON | OFF | 38400 |
| ON | ON | 115200 |

- SW3, SW4-Parity Selection

| SW3 | SW4 | Parity |
|-----|-----|----------|
| OFF | OFF | None |
| ON | OFF | Even |
| ON | ON | Odd |
| OFF | ON | Reserved |

- SW5-Stop bits

| SW5 | Stop Bits |
|-----|-----------|
| OFF | 1 |
| ON | 2 |

- SW6-SW7 -mode selection

| SW6 | SW7 | Mode |
|-----|-----|-------------------|
| ON | OFF | Auto Slave Mode |
| ON | ON | Auto Master Mode |
| OFF | ON | Manual Mode-Link1 |
| OFF | OFF | Manual Mode-Link2 |

- SW8, SW9, SW10-Termination resistor selection
 SW8 – Link 1, SW9 – Link 2, SW10 – Common

| SW8,9,10 | T/R 120Ω |
|----------|----------------|
| OFF | No Termination |
| ON | Termination |

3. CONFIGURATION

DIP switch is provided to configure the desired Baud Rate, Parity Bits, Stop Bits, Auto/Manual mode selection. Corresponding LED's indicate the current mode of operation and the Link that is active.

Setting is done at Power ON according to the status of DIP switch.

The SRS201M has 3 Ports. Link 1, Link 2 and Common port.

The RS485 Signals of all Ports are provided on the 2-pin Howder terminals.

In the Auto mode the Link selection will be done automatically depending on the Activity on the Ports.

The 485 side Howder connectors have "Link" & "Common" stickers pasted on them. These connectors have to be connected on the respective Input (Link) or Output (Common) side of the SRS and cannot be swapped. The SRS would malfunction if the connectors are swapped.

4. TECHNICAL SPECIFICATIONS

| | |
|---------------------|--|
| Communication Ports | 3 Ports for RS485 2Wire. |
| Indications | Each port has 2 Red coloured LED's indicating Transmit (Tx) and Receive (Rx) signals. Green LED for power. |
| Connectors | 2 Pin Howder connector. For RS485 |
| | 3 Pin Howder connector. For Power Supply |
| | Mini USB for Diagnostic. |
| DIP Switch | 10 Pin DIP Switch for different configuration |
| Baud Rate | 9600,19200,38400,115200 (Configurable through DIP switch) |
| Parity | Odd, Even, None (Configurable through DIP switch) |
| Data Bits | 8 (Fixed) |
| Protection | 15KV ESD for all signals. |
| Dimensions | 55 x 110 x 75 mm [L, D, H] |
| Weight | Approx. 150 g |
| Mounting | Din Rail |
| Power Supply | 24V DC. Range: 18 to 72V DC. |
| Power Consumption | Less than 3 watt. |
| Environmental | Operating Temperature: 0 °C to 55 °C. Relative Humidity : 10 to 90 %. |

5. Device Features

5.1 USB diagnostic port: Device will have USB port acting as CDC class serial port for diagnostic messages monitoring,

5.2 DIP switch :10-way DIP switch will be provided for configuration of baud rate, parity, Stop bit, Auto/Manual mode, LINK selection and termination resistor selection.

5.3 LED Indications: Power LED-Green, 2 RED LEDs one TX and One RX for every port

6.WIRING DETAILS

For RS 485, 2 wire

| SIGNAL of SRS | Will Connect to |
|---------------|--------------------|
| D+ | D+ of your device. |
| D- | D- of your device. |