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SAN TELEQUIP
Connecting. Converting. Leading !

Document Name: USER MANUAL for SRS 201M

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 equipment's also it will store receiving data on any port while the port is communicating with any other port.

OPERATION

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. All 3 port can operate on Same or Different Baud rates.

Modbus RTU protocol is a single master-slave protocol. Modbus RTU protocol does not allow connecting two masters with slaves. If Master 1 is fetching only 2 registers and polling at a rate of 150msec and the second master is fetching 100 registers at polling rate 500msec. Then it becomes very difficult to manage time because while master 2 receives its response master 1 will miss 2 queries. We cannot change the polling rates of the respective Masters.

SRS201M is designed precisely to resolve this situation. It will switch between two master's and ensure that both the master's communicate with Modbus RTU Slave simultaneously, get proper responses and avoid eventualities.

Operating Modes of SRS 201M

1. Auto Slave Mode
2. Auto Master Mode
3. Manual Mode: Link1
4. Manual Mode: Link2

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CONFIGUREATION DETAILS

DIP Switch Setting:

Operating Mode Selection: Using DIP Switch Operating mode can be configured. SW6 and SW7 use for selection.

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

Termination Resistor Selection: SW8, SW9, SW10 use for Termination Resistor selection.

Port	DIP Switch	Switch Status
COMMON	SW8	OFF: No Termination, ON: Termination
Link1	SW9	OFF: No Termination, ON: Termination
Link2	SW10	OFF: No Termination, ON: Termination

To Enter USB Configuration Setting: SW4 use for Configuration**.**

Port	DIP Switch	Switch Status
COMMON	SW4	OFF: Disable, ON: Enable

Configuration parameters settings through USB console:

a) To Enter USB Configuration Mode turn ON DIP Switch 4.
b) Connect mini USB connector to USB port of PCB using USB cable.
c) Check if automatically drivers get installed and COM port is shown in device manager. If USB drivers do not get automatically installed, then download drivers from internet.
d) Download hyper terminal utility. http://santelequip.com/download/
e) Open New connection and give connection name.

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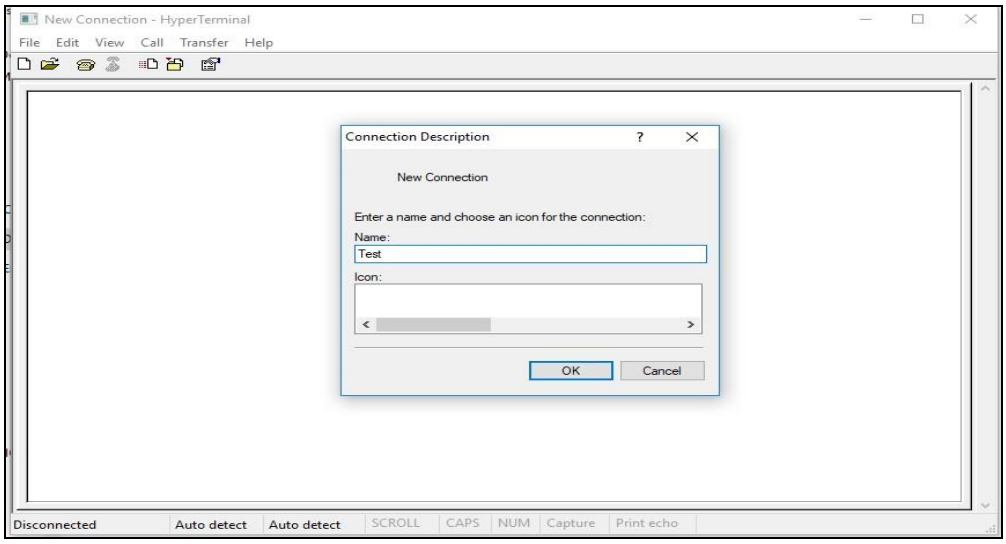
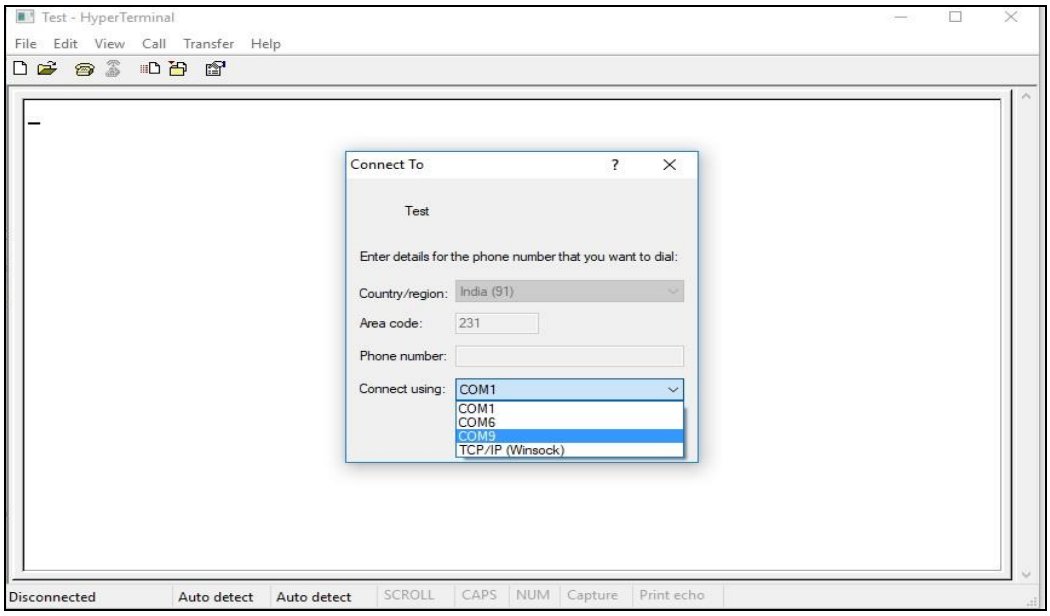
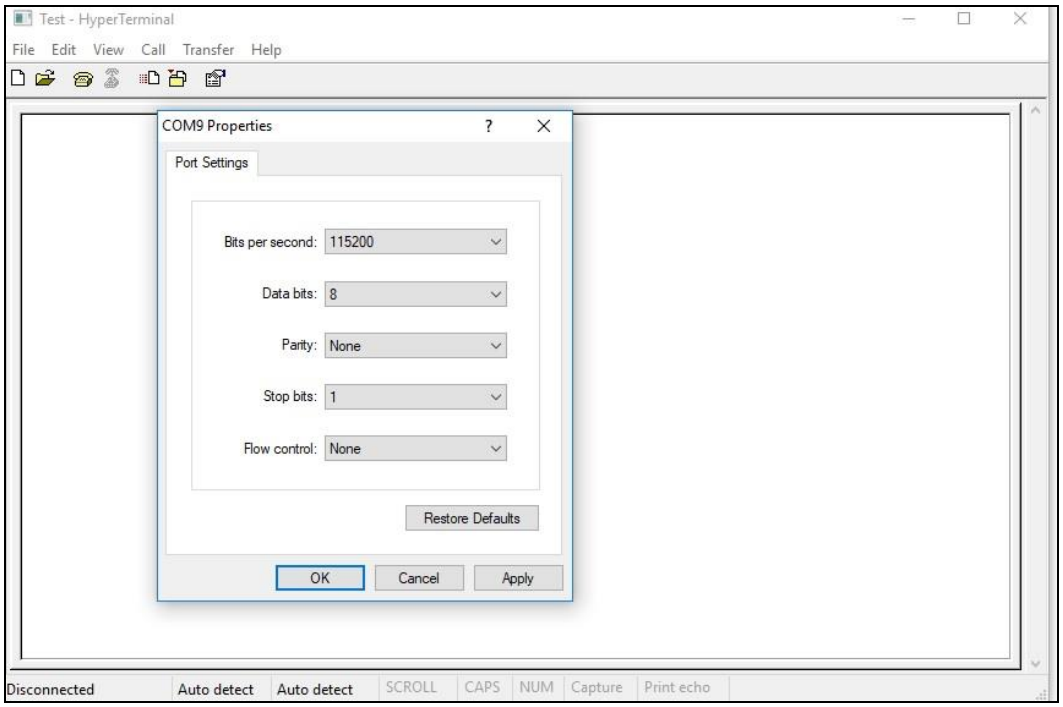


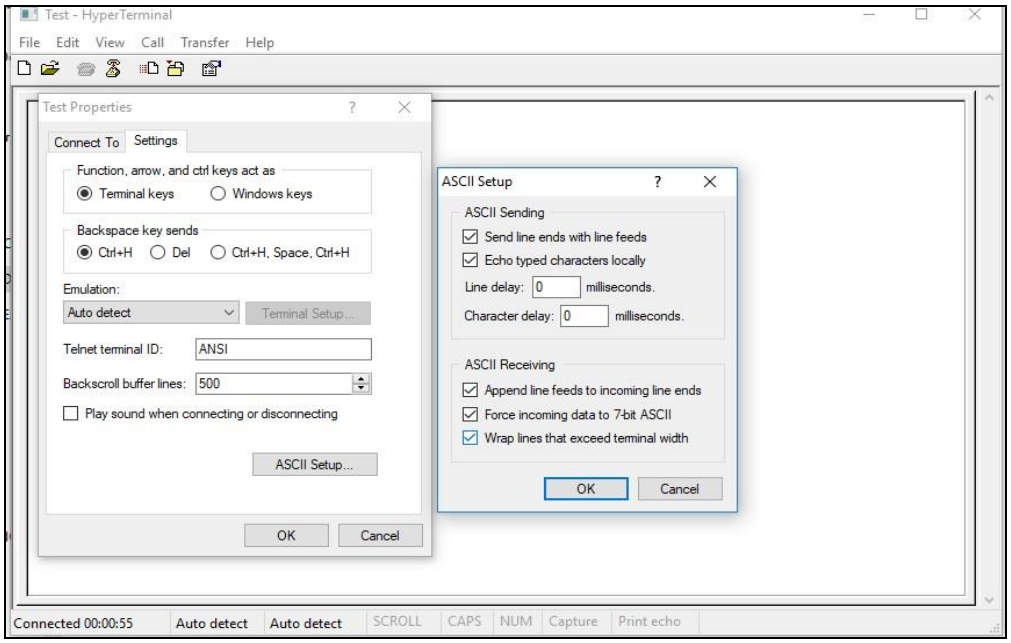
f) Select COM port which was shown in device manager.



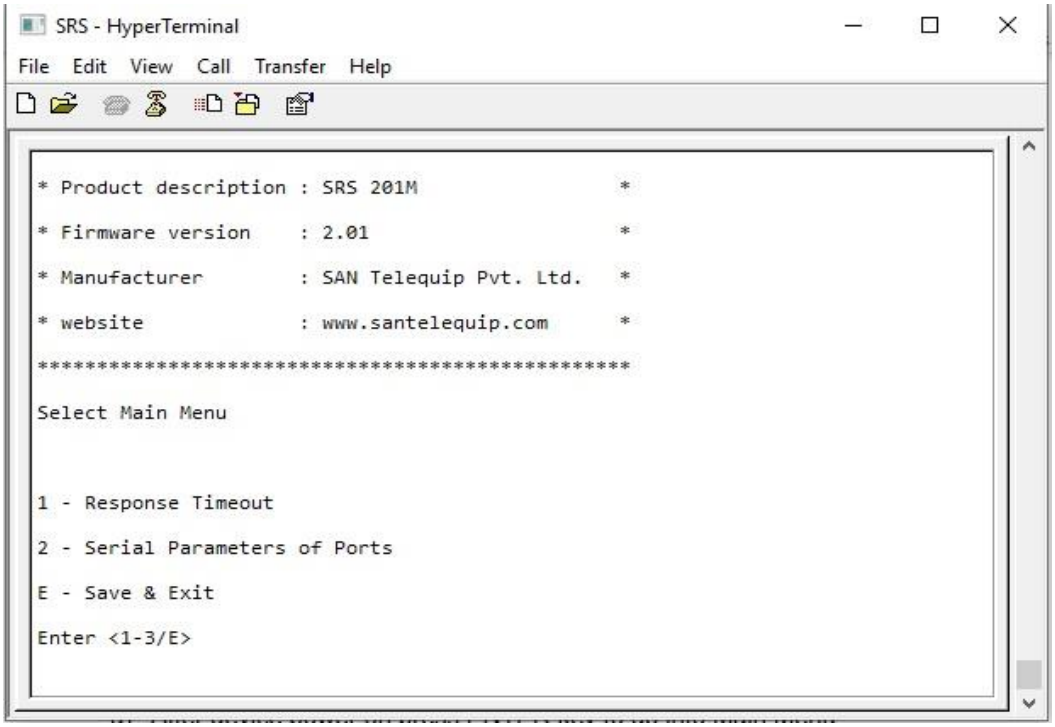
g) Select settings as baud rate 115200, 8 data bits, 1 stop bit



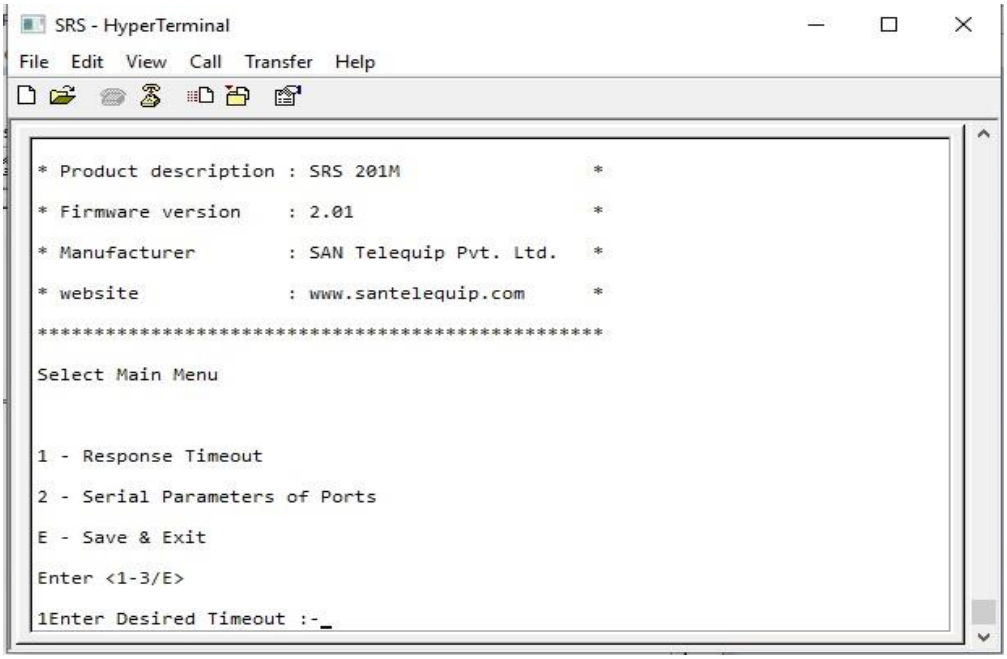
h) Go to File-> Properties -> Settings -> Set ASII setup as per below screenshot



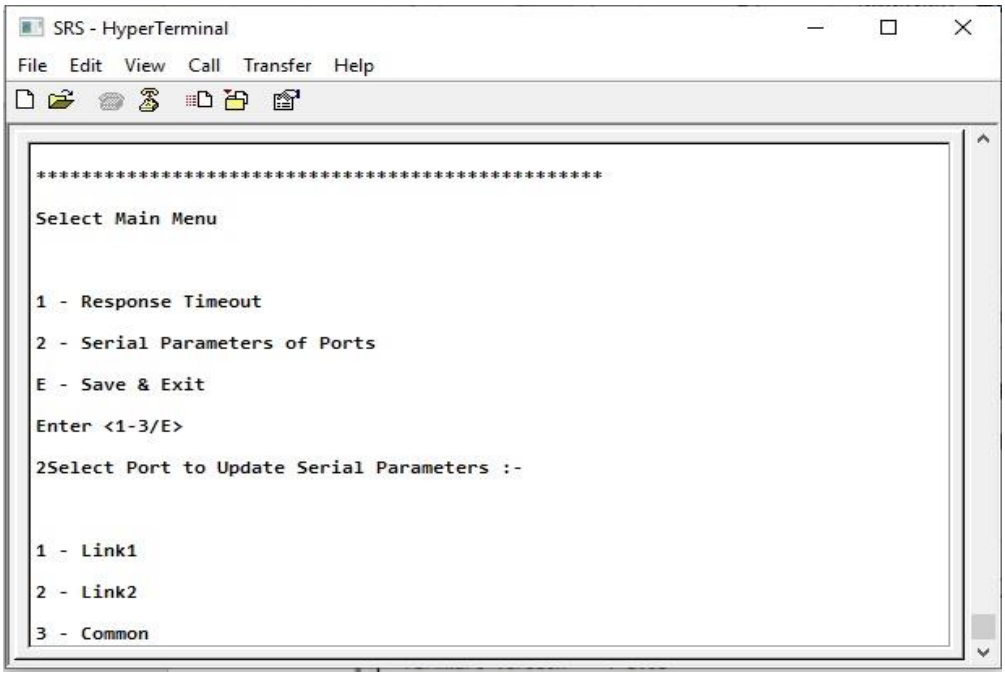
i) After device power on press ENTER key to go into Main Menu.



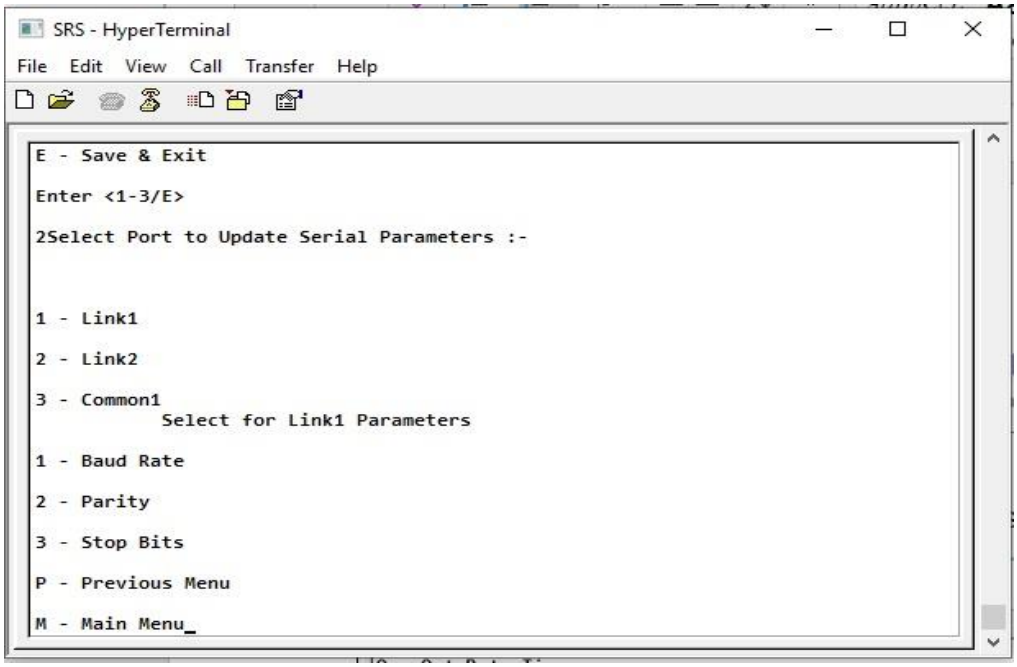
j) To set Response Timeout press 1, Timeout menu will be appearing. Set Timeout to 3000. After putting timeout Main menu will appear automatically.



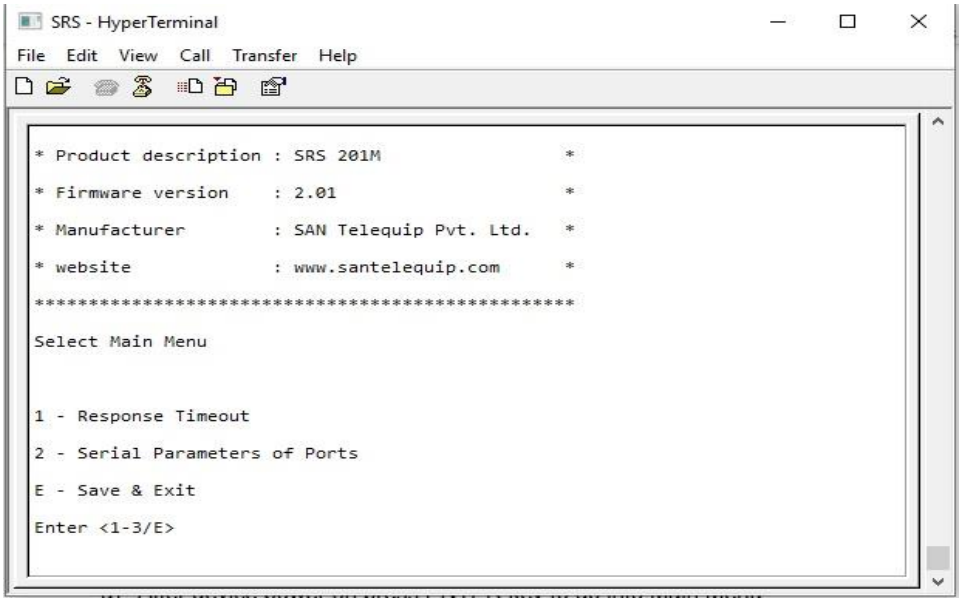
k) To set Communication Parameters (Baud rate, Parity, Stop bits) of RS-485 Ports (COMMON, Link1, Link2) press 2.



l) Press 1 to set parameters for Link1. 2 for link2 and 3 for Common port. Press P for previous menu and M for main menu.



m) After all configuration save all the configuration. Go to main menu and press E for Save and Exit from USB.



After finishing all setting through USB console turn OFF the DIP Switch 4.

TECHNICAL SPECIFICATION

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 connectors. For RS485
	3 Pin Howder connectors. For Power Supply
	Mini USB for Diagnostic.
DIP Switch	10 Pin DIP Switch for different configuration
Baud Rate	9600,19200,38400,115200
Parity	Odd, Even, None
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 watts.
Environmental	Operating Temperature: 0 □C to 55 □C. Relative Humidity : 10 to 90 %.

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CONNECTOR DETAILS

a) RS-485 interface:

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

b) Power connector:

SRS 201M works on +24V DC supply using 3 Pin Howder.

PIN no.	PIN details
1	+Terminal of 24V DC IN
2	-Terminal of 24V DC IN
3	GND

LED INDICATIONS

LED Name	Details	
Power	ON	Unit is Powered ON
TXC and RXC	Blinking	Communication starts on Common port.
TX1 and RX1	Blinking	Communication starts on Link1 port.
TX2 and RX2	Blinking	Communication starts on Link2 port.