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Connecting. Converting. Leading!

Document Name: User Manual for SC10MK, Modbus RTU to Modbus TCP Converter

Login for the first time, please use <http://192.168.1.100>
 To key in user name and password is for identifying authorization. Default user name characters are "admin" and password characters are " " (empty). And then just click "OK" button.
 The explanation for the features as as below

1. Status

Display current status and time of the system

The screenshot shows the 'Status' page of the Modbus Gateway Configuration. The interface includes a sidebar with navigation links for Status, Network, System, and Gateway. The main content area is divided into sections for LAN, WAN, and System. The LAN section displays Ethernet and Wireless network details. The WAN section shows PPPoE settings. The System section provides hardware and software information.

LAN		Ethernet	Wireless
Status	IP Address	192.168.106.215	n/a
Network	Subnet Mask	255.255.255.0	n/a
System	MAC Address	00-01-3D-82-80-A3	n/a
Gateway	Default Gateway		
WAN		PPPoE Address	n/a
	Connection Time	n/a	
System		RAM	13568 KB, 10836 KB free
	Disk	2752 KB, 1248 KB free	
	System Up Time	0 / 00:01:43	
	Firmware Release	2012 Oct 2 17:23:34	
	Current Date / Time	1970 Jan 1 00:01:43	

2. Network

The screenshot shows the 'Network' configuration page. It features a sidebar with navigation links for Status, Network, System, and Gateway. The main content area is organized into sections for LAN, Wireless, and PPPoE. Each section contains various configuration parameters with input fields and dropdown menus.

LAN		Network Link Speed	Auto
Status	IP Address	192.168.106.215	
Network	Subnet Mask	255.255.255.0	
System	Gateway		
Gateway	DNS Server	168.95.192.1	
	DHCP Client	Disable	
Wireless		Wireless Interface	Disable
	IP Address		
	Subnet Mask	255.255.255.0	
	Gateway		
	DHCP Client	Disable	
	SSID		
	WEP Mode	Open System	
	WEP Key (10 or 26 hex digits)		
PPPoE		Connection Mode	Disable
	User		
	Password		
	Service Name		

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LAN:

- a) Network Link Speed: default value is "Auto"
- b) IP Address : default value is "192.168.1.100"
- c) Subnet Mask : default value is "255.255.255.0"
- d) Gateway : default value is "blank"
- e) DNS Server : default value is "192.95.192.1"
- f) DHCP Client : Network configuration information automatically acquired default value is "Disable"

Wireless. Not Available at the moment, (For future requirement.)

PPPoE: Ethernet Point to Point Protocol Internet, through ADSL modem connected to the Internet.

- a. Connection Mode : Disable, Always-on, Manual. Default Value is "disable"
- b. User Name : ADSL dial-up account
- c. Password : ADSL account password.
- d. Service Name : definable

3. System

Administration

- a) Administrator : The default value is admin
- b) Password : Changeable, the default value is empty.

Internet Service

- a. HTTP Server / Port : Enable/Disable, the port default is 80.
- b. FTP Server : Enable/Disable, The default is Disable.
- c. Telnet Server : Allows the user to re-connect remotely using the telnet server Enable/Disable

NTP (Network Time Protocol): This option can automatically update the system time

- a) NTP Server : Enable/ Disable
- b) Time Zone : Choose

DDNS Dynamic Domain Name Server

- a) Service Provider : Disable /no IP, The default is Disable
- b) User : registered account
- c) Password : password of registered account
- d) Host Name : the URL
- e) Domain Name: : Contact your System Admin for details

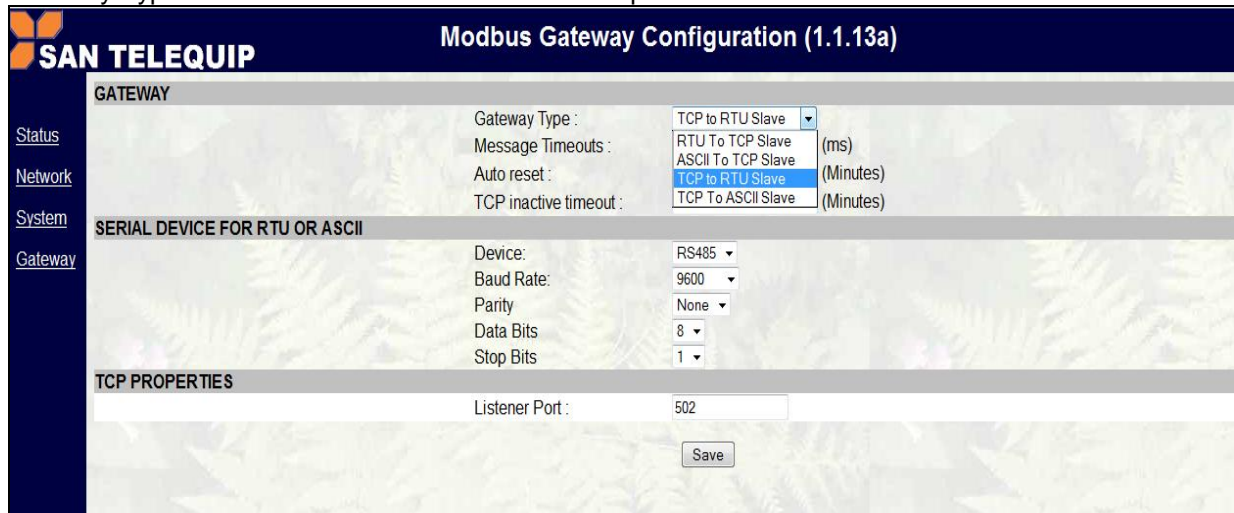
System Tool

- a) Firmware Backup : Users can follow the instructions to save the firmware data file.
- b) Firmware Update : Prepare the updated firmware first and upload the firmware accordingly to the instruction.
- c) Restore Default Settings
- d) Reboot System:

After change parameters, please be sure to click below to save the parameter.

4. Gateway

Gateway Type: Four modes are selectable as below pictures



The screenshot shows the 'Modbus Gateway Configuration (1.1.13a)' web interface. It features a sidebar with navigation links: Status, Network, System, and Gateway. The main content area is divided into three sections:

- GATEWAY**: Gateway Type (dropdown: TCP to RTU Slave), Message Timeouts (dropdown: RTU To TCP Slave, ASCII To TCP Slave, TCP to RTU Slave, TCP To ASCII Slave), Auto reset (dropdown: TCP to RTU Slave), and TCP inactive timeout (dropdown: TCP To ASCII Slave).
- SERIAL DEVICE FOR RTU OR ASCII**: Device (dropdown: RS485), Baud Rate (dropdown: 9600), Parity (dropdown: None), Data Bits (dropdown: 8), and Stop Bits (dropdown: 1).
- TCP PROPERTIES**: Listener Port (input field: 502).

 A 'Save' button is located at the bottom of the configuration area.

GATEWAY

- 1. Gateway Type : default value is TCP to RTU Slave.
- 2. Message Timeouts : default value is 500ms.
- 3. Auto reset : default value is 0 Min.
- 4. TCP inactive timeout : default value is 5 Min.


SERIAL DEVICE FOR RTU OR ASCII

- 1. Device : Serial device type currently supports RS232,RS485 and RS422.
- 2. Baud Rate : 300 to 230kbps.
- 3. Parity : None, Even, Odd
- 4. Data Bits : 5,6,7,8
- 5. Stop Bits : 1,2

TCP PROPERTIES

Listener Port : Port can be specified , If not specified will use the default value 502.

TCP to RTU Slave

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Modbus Gateway Configuration (1.1.13a)

GATEWAY

Gateway Type :	TCP to RTU Slave
Message Timeouts :	500 (ms)
Auto reset :	0 (Minutes)
TCP inactive timeout :	5 (Minutes)

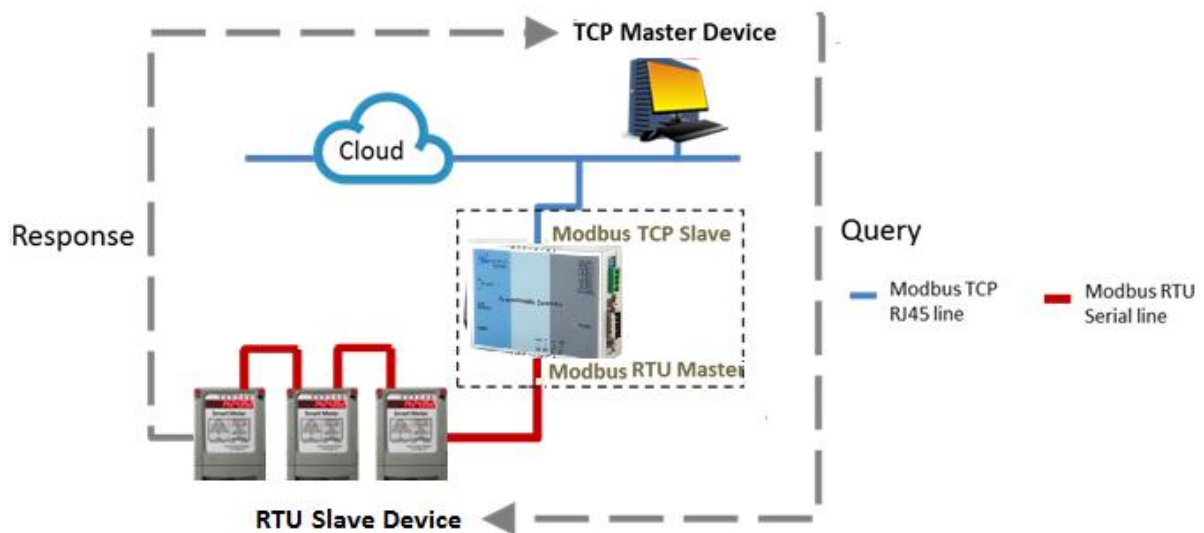
SERIAL DEVICE FOR RTU OR ASCII

Device:	RS485
Baud Rate:	9600
Parity:	None
Data Bits:	8
Stop Bits:	1

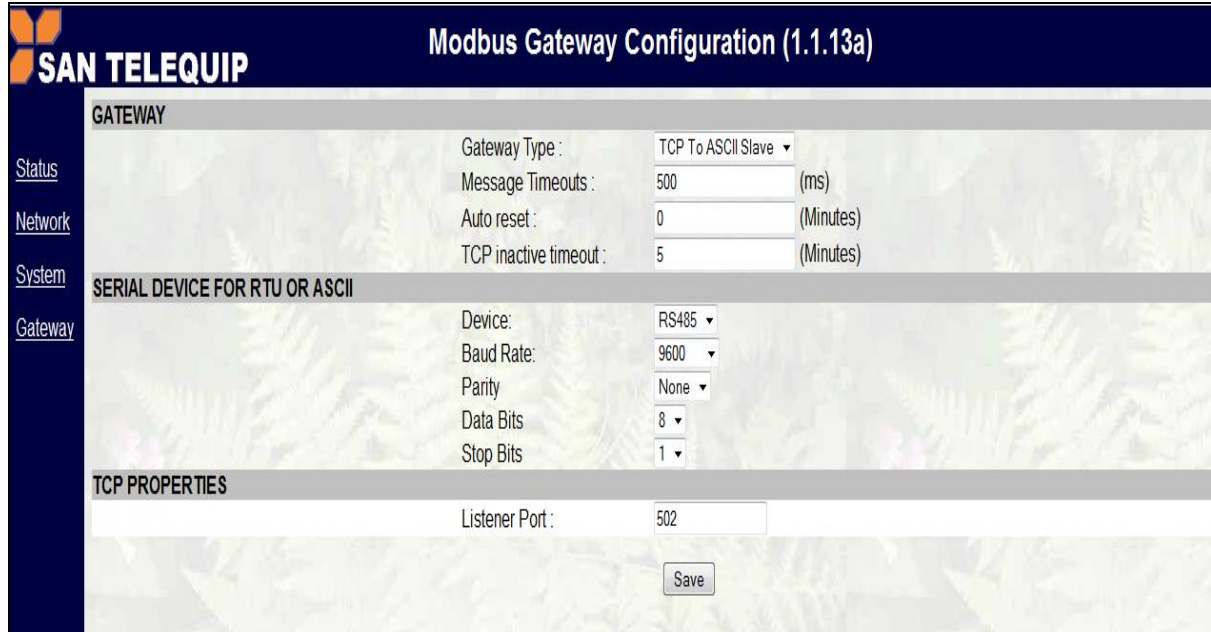
TCP PROPERTIES

Listener Port :	502
-----------------	-----

Diagram as below. TCP Master Device (ex. Modscan / SCADA system) sends query to RTU Slave device then RTU Slave device response back to TCP Master's requirement. Inside the Modbus gateway, there are TCP Slave & RTU Master counterparts respectively

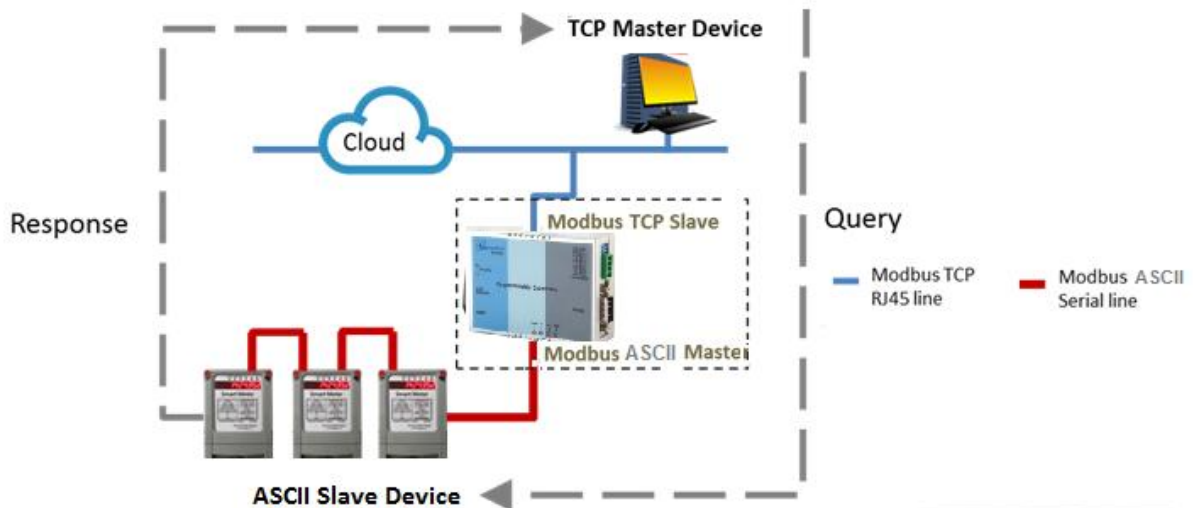


TCP to ASCII Slave.

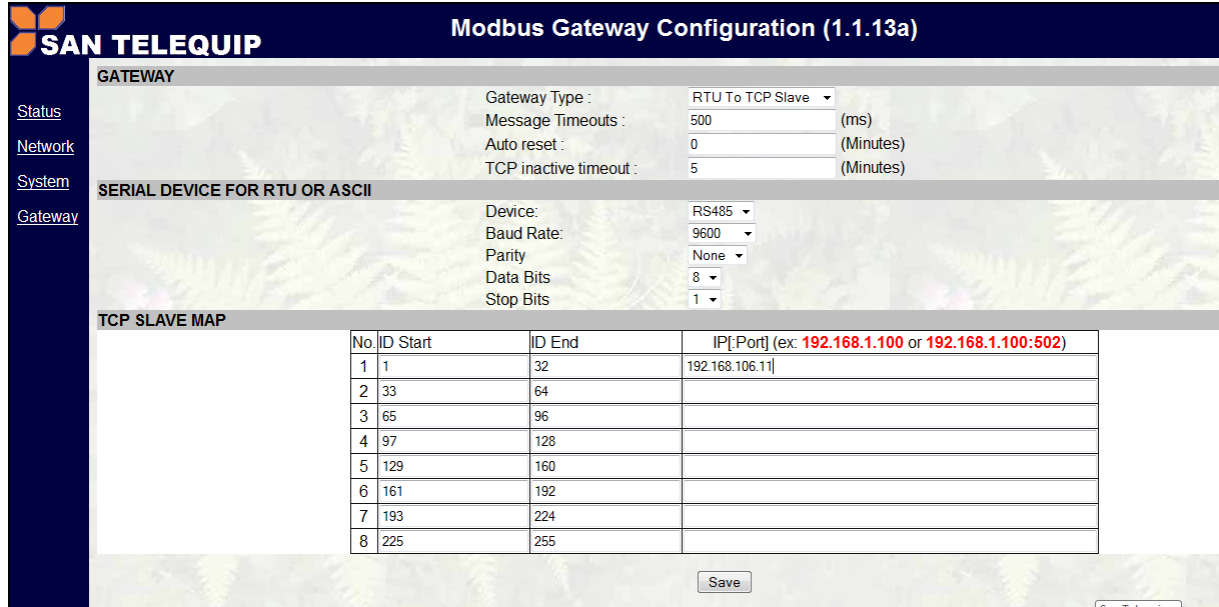


The screenshot shows the 'Modbus Gateway Configuration (1.1.13a)' window. On the left is a navigation menu with 'Gateway' selected. The main area is divided into sections: 'GATEWAY', 'SERIAL DEVICE FOR RTU OR ASCII', and 'TCP PROPERTIES'.
 - **GATEWAY**: Gateway Type: TCP To ASCII Slave; Message Timeouts: 500 (ms); Auto reset: 0 (Minutes); TCP inactive timeout: 5 (Minutes).
 - **SERIAL DEVICE FOR RTU OR ASCII**: Device: RS485; Baud Rate: 9600; Parity: None; Data Bits: 8; Stop Bits: 1.
 - **TCP PROPERTIES**: Listener Port: 502.
 A 'Save' button is located at the bottom right.

TCP Master Device (ex. Modscan / SCADA system) sends query to ASCII Slave device then ASCII Slave device response back to TCP Master's requirement. Inside the Modbus gateway, there are TCP Slave & ASCII Master counterparts respectively.



RTU to TCP Slave : TCP Slave device IP address should be entered "TCP SLAVE MAP"



SAN TELEQUIP Modbus Gateway Configuration (1.1.13a)

GATEWAY

Gateway Type : RTU To TCP Slave
 Message Timeouts : 500 (ms)
 Auto reset : 0 (Minutes)
 TCP inactive timeout : 5 (Minutes)

SERIAL DEVICE FOR RTU OR ASCII

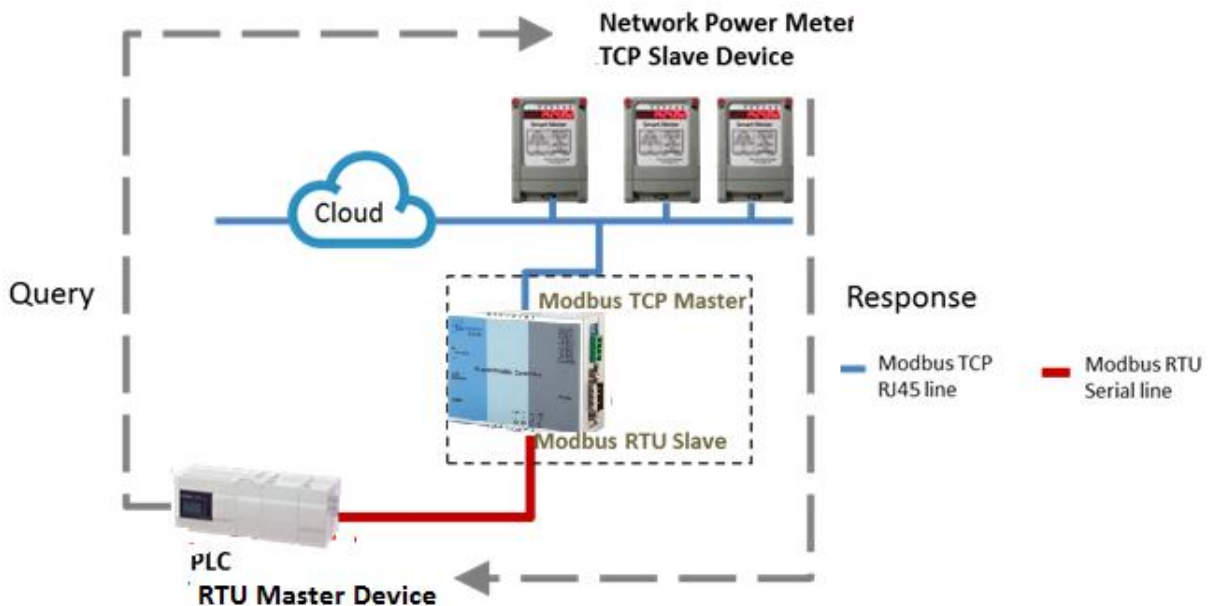
Device: RS485
 Baud Rate: 9600
 Parity: None
 Data Bits: 8
 Stop Bits: 1

TCP SLAVE MAP

No.	ID Start	ID End	IP[Port] (ex: 192.168.1.100 or 192.168.1.100:502)
1	1	32	192.168.106.11
2	33	64	
3	65	96	
4	97	128	
5	129	160	
6	161	192	
7	193	224	
8	225	255	

Save

Diagram as below. RTU Master Device (ex. PLC / Modscan) sends query to TCP Slave device; then TCP Slave device response back to RTU Master's requirement. Inside the Modbus gateway, there are TCP Master & RTU Slave counterparts respectively.



ASCII to TCP Slave : TCP Slave device IP address should be entered "TCP SLAVE MAP"

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Modbus Gateway Configuration (1.1.13a)

Status

Network

System

Gateway

GATEWAY

Gateway Type : ASCII To TCP Slave ▾

Message Timeouts : 500 (ms)

Auto reset : 0 (Minutes)

TCP inactive timeout : 5 (Minutes)

SERIAL DEVICE FOR RTU OR ASCII

Device: RS485 ▾

Baud Rate: 9600 ▾

Parity: None ▾

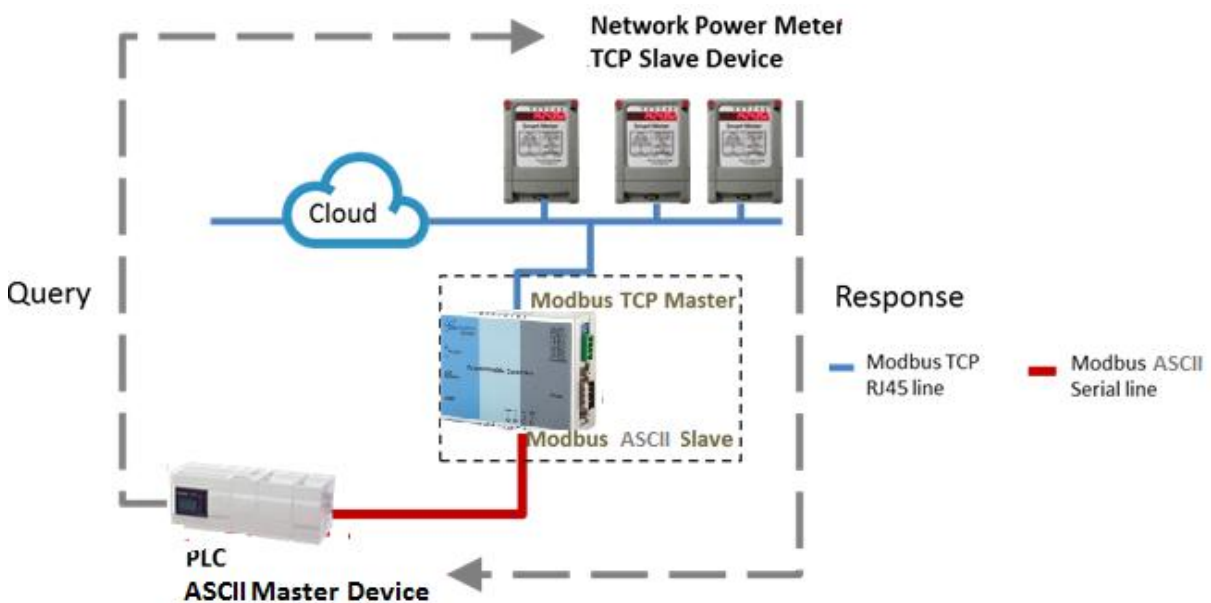
Data Bits: 8 ▾

Stop Bits: 1 ▾

TCP SLAVE MAP

No.	ID Start	ID End	IP[Port] (ex: 192.168.1.100 or 192.168.1.100:502)
1	1	32	192.168.106.11
2	33	64	
3	65	96	
4	97	128	
5	129	160	
6	161	192	
7	193	224	
8	225	255	

ASCII Master Device (ex. PLC / Modscan) sends query to TCP Slave device; then TCP Slave device response back to ASCII Master's requirement. Inside the Modbus gateway, there are TCP Master & ASCII Slave counterparts respectively.



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COMMUNICATION PORT DETAILS

RS232 Port Details of SC10MK

Pin No.	SIGNAL of SC10MK
9 Pin D Male	
2	RX
3	TX
5	GND
7	RTS
8	CTS
4	DTR
6	DSR

CABLE DETAILS OF SC10MK

For RS232 Side

SC10MK Side	COM Port Side
TX	RX
RX	TX
RTS	CTS
CTS	RTS
DSR	DTR
DTR	DSR

For RS422

SIGNAL of SC10MK	Will Connect to
TX +	RX + of your device.
TX --	RX -- of your device.
RX + /D+	TX + of your device.
RX -- /D-	TX -- of your device.

For RS485, 2 wire

SIGNAL of SC10MK	Will Connect to
D + / RX+	TX + of your device.
D -- / RX-	TX -- of your device.

POWER SUPPLY

24V DC through 2 Pin screw type connector

USB

For future requirement.

LED INDICATION

DATA : The Red LED will light and blink when data received.

SYS : Will blink every second once the system starts.

10M : The Red LED will light and blink when network speed is 10M.

100M : The Green LED will light and blink when network speed is 100M