

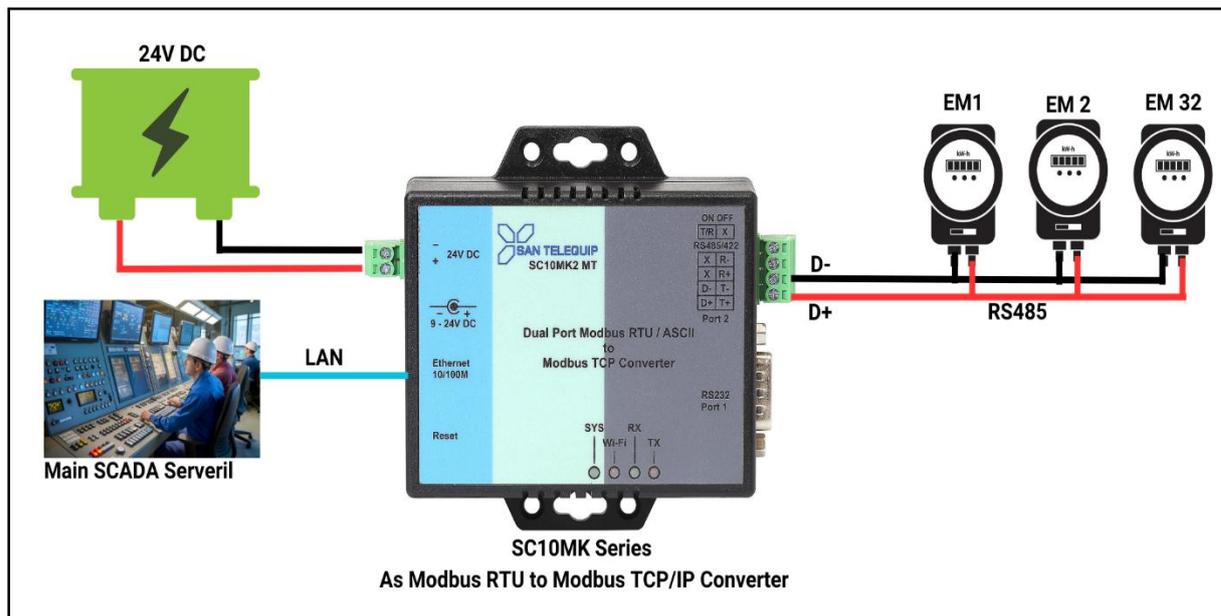
# Application Note for Serial Modbus RTU to Modbus TCP Converter

## Introduction

The Serial Modbus RTU to Modbus TCP Converter enables communication between Modbus RTU (RS232/RS485) devices and Modbus TCP/IP (Ethernet) systems. It converts serial Modbus data into Ethernet-based Modbus TCP packets and vice versa. This allows legacy field devices to be integrated with modern SCADA, PLC, and IoT platforms over IP networks.

## System Architecture Overview

### Application Diagram:



## Diagram Explanation

The diagram illustrates a Modbus RTU to Modbus TCP/IP communication architecture using the SC10MK Series Converter. The device is powered by 24V DC and collects data from multiple Modbus RTU slave devices (such as energy meters) connected over an RS485 (D+, D-) network. The converter translates the serial Modbus RTU data into Modbus TCP/IP and transmits it via the Ethernet LAN port to the Main SCADA Server. This enables seamless integration of legacy serial devices into modern IP-based monitoring and control systems.

## Additional Devices That Can Be Connected

The Modbus RTU to Modbus TCP Converter supports a wide range of serial and Ethernet devices, including:

- Energy meters and multifunction meters
- PLCs and RTUs
- Flow meters and temperature controllers
- Variable Frequency Drives (VFDs)
- Protection relays
- Data loggers
- SCADA servers and workstations

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## Typical Applications

This network architecture is commonly used in:

- Energy Management Systems (EMS)
- Building Management Systems (BMS)
- Power distribution and substation monitoring
- Water and wastewater treatment plants
- Industrial automation and factory monitoring
- Remote site monitoring over Ethernet
- Smart metering and IIoT applications

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## Summary

The Modbus RTU to Modbus TCP/IP Converter provides a reliable and cost-effective solution for integrating serial Modbus devices into Ethernet networks. With simple configuration, stable communication, and scalable multi-device support, it enables efficient data acquisition and centralized monitoring through SCADA or cloud platforms. This makes it an ideal choice for industrial automation and modern network-based control systems.