

MODBUS RTU/TCP

Quick Reference Cheat Sheet

1. PHYSICAL LAYER (RTU)

Interface	RS485 (2-Wire)
Wiring	A (+) and B (-)
Distance	1200m Max
Baud Rate	9600 / 115200
Format	8N1 (Standard)

2. FUNCTION CODES

01	Read Coils
02	Read Discrete Inputs
03	Read Holding Registers
05	Write Single Coil
06 / 16	Write Register(s)

3. DATA MODEL & ADDRESSING

Type	Address Range	Access	Example
Coils	00001 - 09999	R/W	Relays, Motors
Discrete Inputs	10001 - 19999	Read	Switches, Sensors
Input Registers	30001 - 39999	Read	Analog Sensors
Holding Registers	40001 - 49999	R/W	Setpoints, Timers

⚠ Troubleshooting

- Swap **A & B** if no signal.
- Verify unique **Slave IDs**.
- Check 120Ω **Termination**.

💡 Software Mapping

- Check **0-based** vs **1-based**.
- Check Byte Order (Endianness).
- Verify Port (Standard: **502**).