

WIRELESS RS485 PRE-FLIGHT CHECKLIST

VALTORIS
ELECTRONICS

Project: _____ Engineer: _____ Date: _____

PHASE 1: PHYSICAL LAYER & POWER

- ☐ **A/B Polarity Verified:** Device A(+) to Converter A(+), B(-) to B(-).
If communication fails, swap A and B first. Manufacturers label pins inconsistently.
- ☐ **120Ω Termination:** Resistor installed at both ends for runs >200m.
- ☐ **Shield Grounding:** Cable shield grounded at **ONE end only** (typically at the hub/converter).
- ☐ **Industrial Power:** 9-24V DC terminal power confirmed stable. Avoid using temporary USB power for permanent installs.

PHASE 2: SERIAL PARAMETER ALIGNMENT

- ☐ **Baud Rate Match:** Device [_____] bps vs Converter [_____] bps. Must be identical.
- ☐ **Data Bits / Stop Bits:** Usually 8 Data Bits and 1 Stop Bit.
- ☐ **Parity Verification:** [None / Even / Odd]. Ensure mismatch won't cause CRC errors.

PHASE 3: WIRELESS & NETWORK INTEGRATION

- ☐ **Mode Selection:** Set to STA (Station) for plant WiFi or AP (Access Point) for local debugging.
- ☐ **Static IP Assignment:** Assigned outside DHCP range to prevent loss of connection after reboot.
- ☐ **Antenna Placement:** Antenna mounted **outside** metal enclosures via SMA extension.
- ☐ **Signal Check:** RSSI verified > -70 dBm via the module's Web GUI.

PHASE 4: PROTOCOL & SCADA INTEGRATION

- ☐ **Gateway Mode:** Ensure **"Modbus RTU to TCP Gateway"** is enabled (NOT Transparent mode).
- ☐ **Polling Interval:** SCADA polling slowed to match serial bandwidth (e.g., >200ms for 9600 baud).
- ☐ **Slave ID / Unit ID:** SCADA software targeting correct slave ID (1-247).

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