MODBUS RTU SETUP FOR VACON 100 DRIVES

1. Enable Modbus RTU Protocol
The RS-485 port must be configured to use the Modbus RTU protocol.

- **Parameter Name:** RS-485 protocol
- **Parameter ID:** 2208
- **Panel Tree Path:** P 5.8.1.1
- **Default Value:** 0 (No Protocol)
- **Required Value:** 1 (Modbus RTU)
- **Keypad Navigation:** From the main screen, press the navigation keys to go to: **Main Menu > Parameters > 5.8.1.1 RS-485 protocol**. Set the value to 1.

2. Set the Device (Slave) Address
Each slave on the network must have a unique address.

- **Parameter Name:** Slave address
- **Parameter ID:** 2320
- **Panel Tree Path:** P 5.8.3.1.1
- **Default Value:** 1
- **Required Value:** 1 (This is the desired value from your request)
- **Keypad Navigation:** Navigate to: **Main Menu > Parameters > 5.8.3.1.1 Slave address**. Confirm the value is 1.

3. Set the Baud Rate
This defines the communication speed for the network.

- **Parameter Name:** Baud rate
- **Parameter ID:** 2378
- **Panel Tree Path:** P 5.8.3.1.2
- **Default Value:** 6 (This corresponds to 9600 baud. See table below.)
- **Required Value:** 6 (for 9600 bps)
- **Keypad Navigation:** Navigate to: **Main Menu > Parameters > 5.8.3.1.2 Baud rate**. Set the value to 6.

Baud Rate Value Table (from manual):

Value	Baud Rate
0	300
1	600
2	1200
3	2400
4	4800
5	9600
6	19200
7	38400
8	57600
9	76800
10	115200
11	230400

Summary of Parameter Changes:

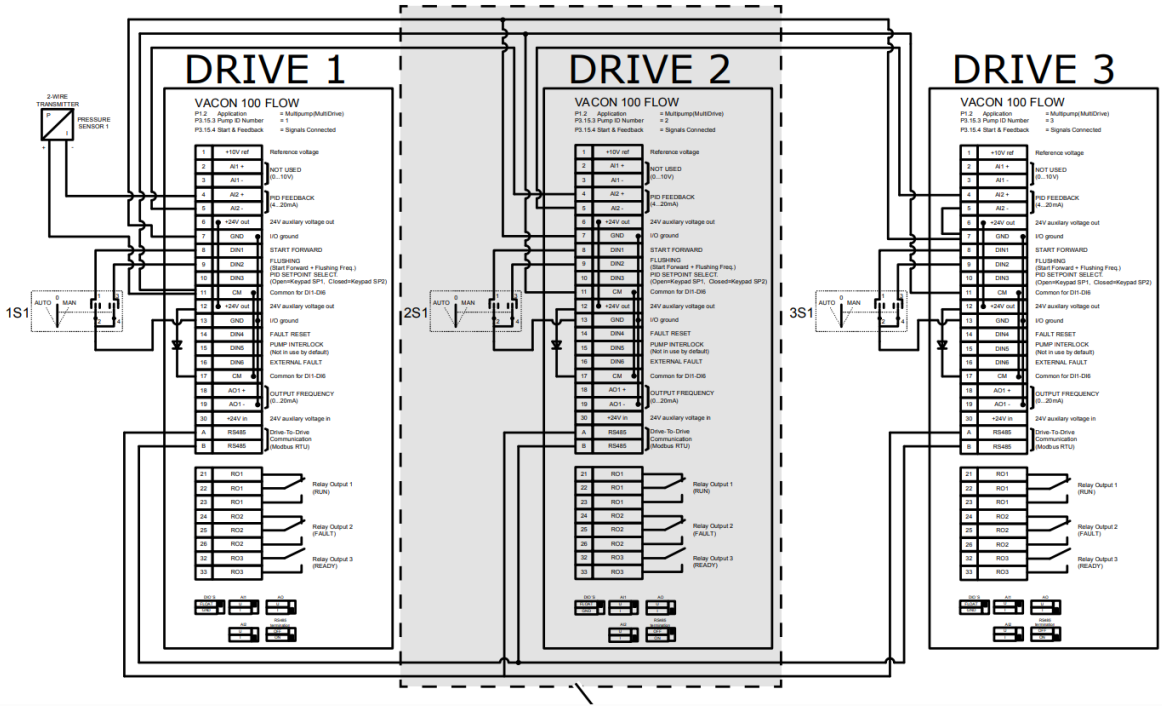
Parameter Name	ID	Path	Default Value	Required Value
RS-485 protocol	2208	P 5.8.1.1	0 (No Protocol)	1 (Modbus RTU)
Slave address	2320	P 5.8.3.1.1	1	1
Baud rate	2378	P 5.8.3.1.2	6 (9600 bps)	6 (9600 bps)
Parity type	2379	P 5.8.3.1.3	0 (Even)	2 (None)
Stop bits	2380	P 5.8.3.1.4	3 (2 stop bits)	1 (1 stop bit)

4. Built-in Termination Resistor

Vacon 100 drive has a built-in termination resistor that can be enabled or disabled via a DIP switch.

- **Location:** The DIP switches are located to the right of the control keypad on the main unit. On the Vacon 100 X model, they are on the top of the control unit.
- **Switch:** The specific switch for the **RS-485 bus termination resistor** must be set to **ON**.
- **Important Note:** The manual states that **"Biasing is built in the termination resistor."** This means when you enable the termination resistor using the DIP switch, the necessary bus biasing (pulling the line to a defined '1' state when idle) is also included.
- **When to Use:** This termination should only be activated for the **first and last device** on the Modbus RTU network chain.

RS485 WIRING



RS485-A and RS485-B manual didn't suggest external terminating resistor it has ha switch for terminating resistor

TERMINATION WIRING AND TERMINATING DIP SWITCH

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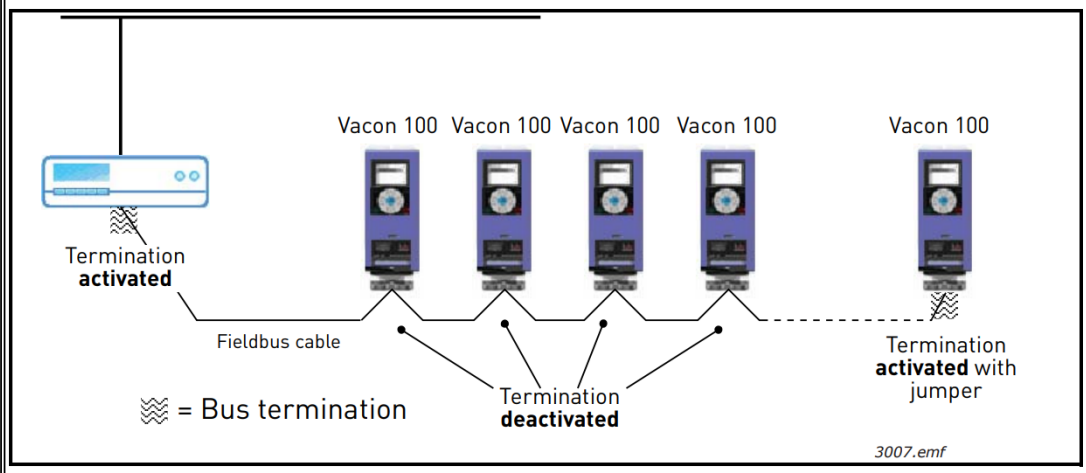
The bus termination must be set for the first and the last device of the fieldbus line. See picture below. See also step 3 on page 17. We recommend that the first device on the bus and, thus, terminated was the Master device.



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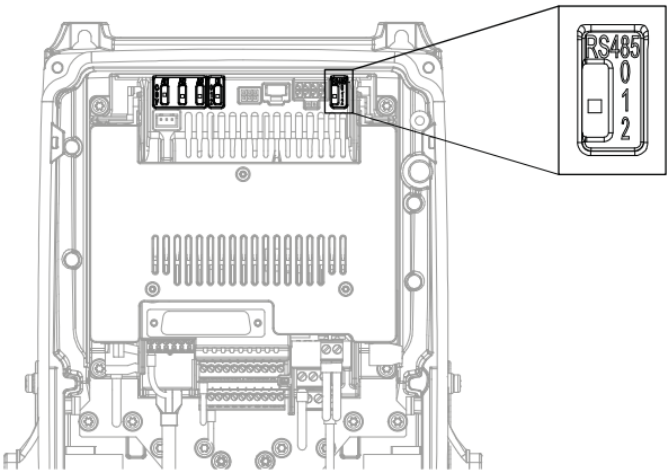
If VACON® 100 X AC drive is the last device on the bus, the bus termination must be set. Locate the DIP switches to the top of the control unit (see figure below).



Turn the right most switch to position "1". Biasing is built in the termination resistor. See also step 6.

NOTE: When planning the cable runs, remember to keep the distance between the fieldbus cable and the motor cable at a **minimum of 30 cm**.