

SETTING THE RS485 COMMUNICATION PARAMETERS OF THE TRANSMITTER WITH A STANDARD COMMUNICATION PROGRAM

Before connecting the transmitter to the RS485 network, an address must be assigned and the communication parameters be set, if different from the factory preset.

The parameters setting is performed as follows:

- If you have the **RS48** cable, install the drivers in the PC.
- Connect the transmitter to a PC USB port using the cable **RS48** (or alternatively through another USB/RS485 converter available, ensuring that their drivers are installed in the PC).
- Move the ADDRESS jumper between the sign "ADDRESS" and "N = 0" to select the configuration mode (see technical sheet to locate the jumper).
- Start a communication program such as Hyperterminal, and set the serial communication parameters as follows (the instrument is connected to a COM port type):

Baud rate: 115200
 Parity: None
 Data Bits: 8
 Stop Bits: 2

- Send the serial commands given in the following table to set the RS485 MODBUS parameters:

Command	Response	Description
MA nnn	&	Set RS485 address Ranging from 1 to 247 Preset on 1
MB n	&	Set RS485 Baud Rate n=0 ⇒ 9600 n=1 ⇒ 19200 Preset on 1 ⇒ 19200
MP n	&	Set RS485 transmission mode n=0 ⇒ 8-N-1 (8 data bits, no parity, 1 stop bit) n=1 ⇒ 8-N-2 (8 data bits, no parity, 2 stop bits) n=2 ⇒ 8-E-1 (8 data bits, even parity, 1 stop bit) n=3 ⇒ 8-E-2 (8 data bits, even parity, 2 stop bits) n=4 ⇒ 8-O-1 (8 data bits, odd parity, 1 stop bit) n=5 ⇒ 8-O-2 (8 data bits, odd parity, 2 stop bits) Preset on 2 ⇒ 8-E-1
MW n	&	Set receiving mode after RS485 transmission n=0 ⇒ Violates the protocol and gets in listen mode immediately after the transmission n=1 ⇒ Respects the protocol and waits 3.5 characters after the transmission Preset on 1 ⇒ Respects the protocol

- You can check the parameters setting and read the information of the instrument by sending the following serial commands:

Command	Response	Description
G0		Transmitter Model
G2		Serial number of the transmitter
G3		Firmware Version
G4		Firmware Date
L1	<i>Address</i>	Read RS485 address
L2	<i>Baud Rate</i> (0,1)	Read RS485 Baud Rate 0 \Rightarrow 9600 1 \Rightarrow 19200
L3	<i>Tx Mode</i> (0,1,2,3,4,5)	Read RS485 transmission mode 0 \Rightarrow 8-N-1 1 \Rightarrow 8-N-2 2 \Rightarrow 8-E-1 3 \Rightarrow 8-E-2 4 \Rightarrow 8-O-1 5 \Rightarrow 8-O-2
L4	<i>Rx Mode</i> (0,1)	Read receiving mode after RS485 transmission 0 \Rightarrow Violates the protocol and gets in listen mode immediately after Tx 1 \Rightarrow Respects the protocol and waits 3.5 characters after Tx
P0	&	Ping

- When finished, reposition the ADDRESS jumper between the indications "ADDRESS" and "N =" to restore the MODBUS mode.

READING OF THE MEASURES WITH THE MODBUS-RTU PROTOCOL WHEN THE INSTRUMENT IS IN OPERATING CONDITIONS (INSTALLED IN A NETWORK)

In MODBUS mode, you can read the values measured by the instrument through the function code 04h (Read Input Registers). The following table lists the quantities available with the appropriate register address:

Address	Quantity	Format
0	Temperature in °C (x10)	16-bit Integer
1	Temperature in °F (x10)	16 bit Integer
2	Relative Humidity in % (x10)	16-bit Integer
3	Dew Point in °C (x10)	16 bit Integer
4	Dew Point in °F (x10)	16-bit Integer
5	Status register bit 0 = 1 \Rightarrow temperature measurement error bit 1 = 1 \Rightarrow humidity measurement error bit 2 = 1 \Rightarrow dew point calculation error bit 3 = 1 \Rightarrow configuration data error	16-bit Integer