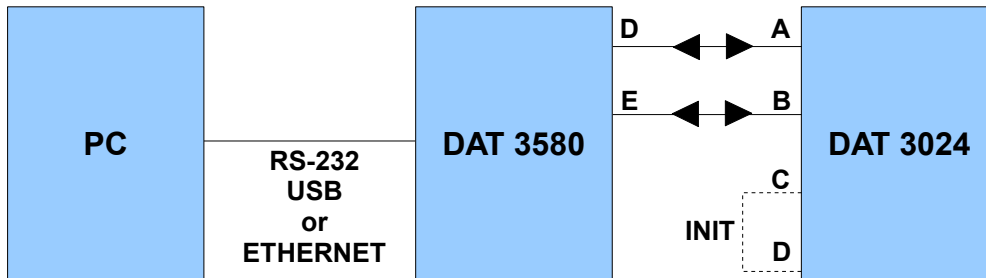


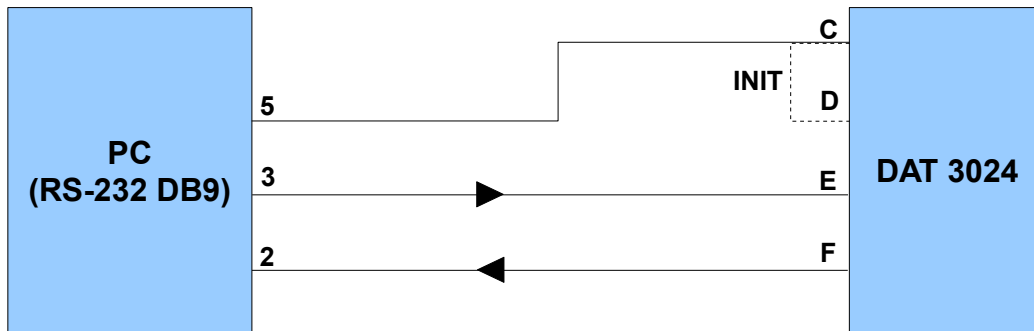
Using DAT3000Modbus software to setup DAT3000 series devices

STEP 1 – Connect device

RS-485 devices: Connect the PC to serial converter (DAT3580 or similar) and devices to setup as following:



RS-232 devices: Connect the PC to the devices to setup as following:



Please refer to the technical documentation of the device in use for the right connection.

STEP 2 – Open the connection

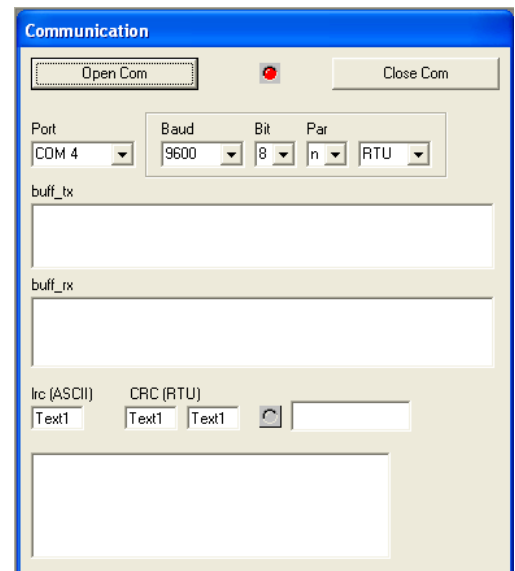
In DAT3000Modbus software, the Communication window is always visible.

→ If address or baud rate of the device is unknown, keep connected the INIT terminal (D) to the GND terminal (C) and reset the device (power off and power on). Until the terminals still connected, the device will communicate as address 1, 9600 bps and RTU mode.

→ Open DAT3000Modbus software.

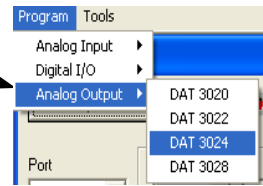
→ In the Communication window (always visible) select the proper COM port and the baud rate of the device (if INIT connected, select 9600bps and 8,n,RTU mode).

→ Click on “Open COM”. If the red led will turn on, the COM port will be successfully opened. If not, check for availability of the COM port and if it is free (not used by other software).



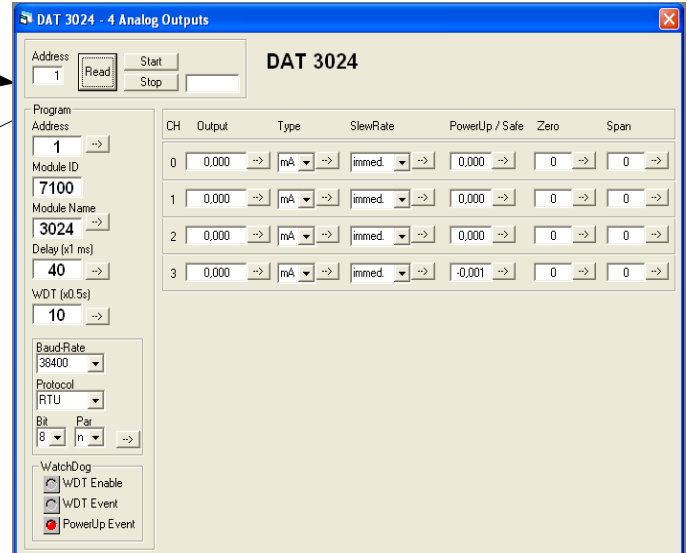
STEP 3 – Read and change the device configuration

→ Open the device configuration form. Search in the “Program” menu for the proper device and click. The proper configuration form will be shown.



→ Set in the Address field at the top left the address of the device (if INIT connected, set 1).

→ Click on “Read”. All fields will show the actual setting. Click the “Start” button to update continuously the parameters. Click “Stop” to terminate the update.



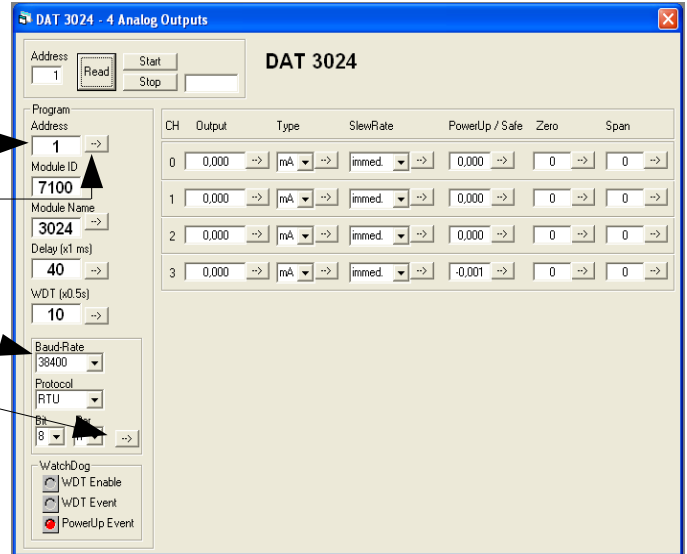
→ To change a parameter, set the proper field and click on the relative “-->” button.

Example: configure the device to Address 2, 38400bps

→ Set the field “Address” to 2 then click on the relative “-->” button.

→ Set the field “Baud-Rate” to 38400 then click on the relative “-->” button.

→ Click on “Read” to check for the successful change of parameters.

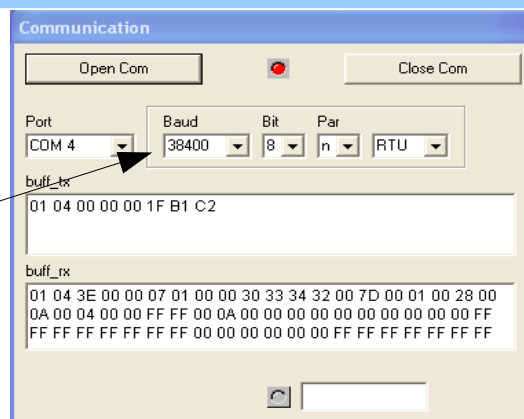


STEP 4 – Test the device

→ Remove the INIT connection and reset the device (power off and power on).

→ In the Communication window, click on “Close COM”. The red led will turn off.

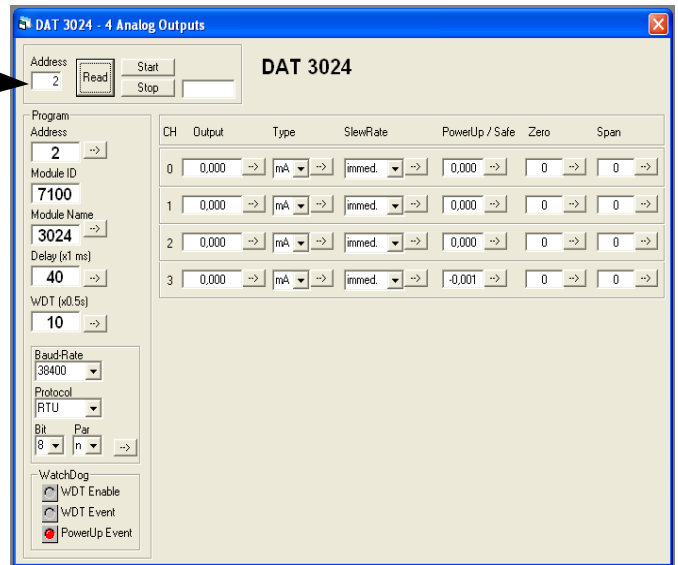
→ Set the baud rate to 38400, then click on “Open COM”. The red led will turn on.



→ In the device form, set in the Address field at the top left the address of the device (2).

→ Click on “Read”. All fields will show the actual setting. Click the “Start” button to update continuously the parameters. Click “Stop” to terminate the update.

If no errors occurs, the device is successfully configured.



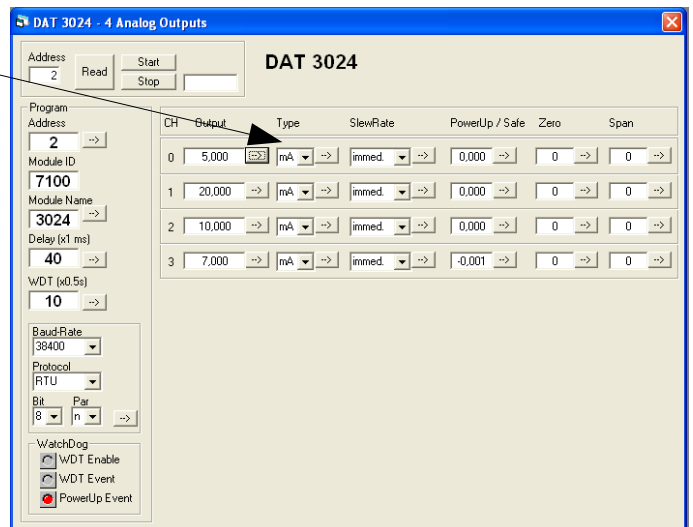
STEP 5 – Read and change the device Output

Set and generate analog output (where available):

→ In the device form, select the desired output type mA in the “Type” list, then click on the relative “-->” button.

→ To set the desired analog output value, write in the “Output” field the value expressed in mA. In the picture, the example shows how to configure the following:

- OUT 0 = 5 mA
- OUT 1 = 20 mA
- OUT 2 = 10 mA
- OUT 3 = 7 mA



STEP 6 – Sending modbus commands to read/write registers

→ To write a register (i.e. an analog output register)
Set the following:

ADD Address of the device
 FUN 6 (write register function)
 ST H 0
 ST L Register to write
 Note: register are zero-based, so to write the register 40001 the field ST L must be set as 0
 register 40002 the field ST L must be set as 1
 And so on...(in the example, write register 40015)

N° H High-part of the register value
 N° L Low-part of the register value
 Note: to calculate these values, follow this procedure:
 Value (decimal) 20000
 Translate in Hex 0x4E20
 Translate the high-part in decimal 0x4E = 78
 Translate the low-part in decimal 0x20 = 32

→ Click “Send”. The fields “buff_tx” and “buff_rx” will show
 The modbus command and the modbus response (in hex values). For the write function, the command and the response are equals.

The analog Outputs of the device are mapped to the following registers:

Out0: 40015
 Out1: 40016
 Out2: 40017
 Out3: 40018

The values must be expressed as uA (example: 10 mA is written as 10000)

ADD	FUN	ST H	ST L	N° H	N° L	CNT
1	6	0	14	78	32	

DATA

1	0	0	9	0	0
2	0	0	10	0	0
3	0	0	11	0	0
4	0	0	12	0	0
5	0	0	13	0	0
6	0	0	14	0	0
7	0	0	15	0	0
8	0	0	16	0	0

Buttons: Send, Start, Stop, Sync, Zero, Span, Control

Open Com Close Com

Port: COM 4 Baud: 38400 Bit: 8 Par: n RTU

buff_tx: 02 06 00 0E 4E 20 DC 42

buff_rx: 02 06 00 0E 4E 20 DC 42