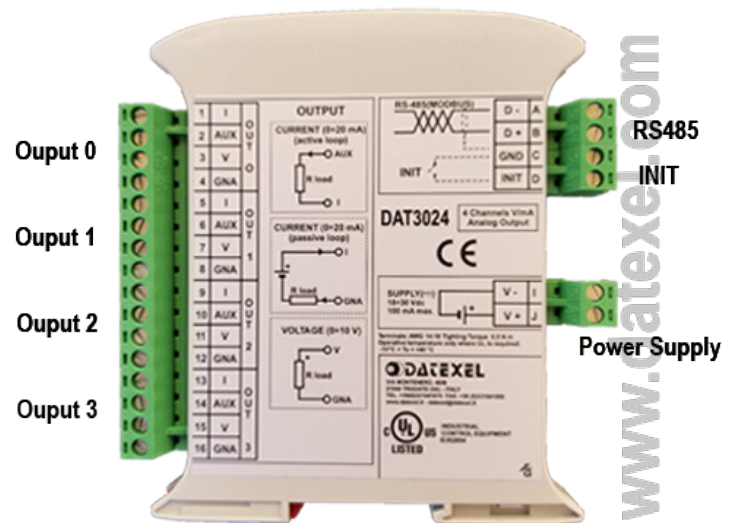


DATEXEL LLC

Modbus RTU DAT3024 with a 4 Channel 4 to 20 mA output.

Set Up the DAT3024.

1. Connect 24 Vdc to I and J.
2. Connect RS485 to A and B.
3. Connect a multi meter to 1 and 2 to measure the 4-20mA output.
4. If the communication parameters are unknown, short out the INIT connections C and D.
5. Power up the DAT3024 Modbus RTU Slave.



It is advisable to use the DAT3580 to connect the DAT3024 to the PC. The advantage of using the DAT3580 is that it will isolate your PC from the DAT3024. The DAT3580 options are USB, Ethernet and RS232. If the DAT3580USB version is used, install the USB drivers. If the DAT3580MBTCP or the DAT3580GW are used, make sure the ethernet parameters are compatible with the net and transmission of data over port 502 is allowed.

Set Up the PC.

1. Download the 3000-10000 Software from www.datexel.com download page.
2. Close all other software.
3. UnZIP the Modbus_3000_10000_setup software.
4. Run the 3000-10000 software.
5. To start the software click the English version.

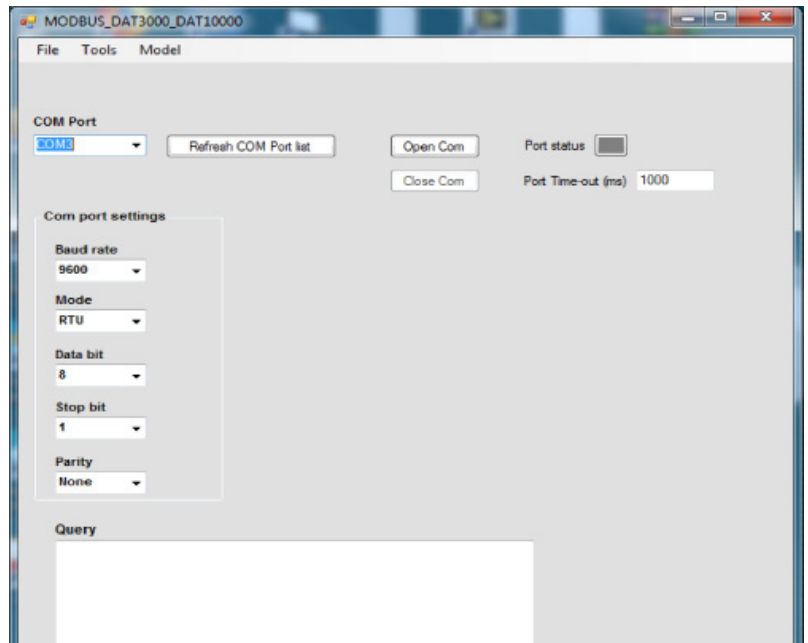
www.datexel.com

Call 561 779 5660 for technical support.



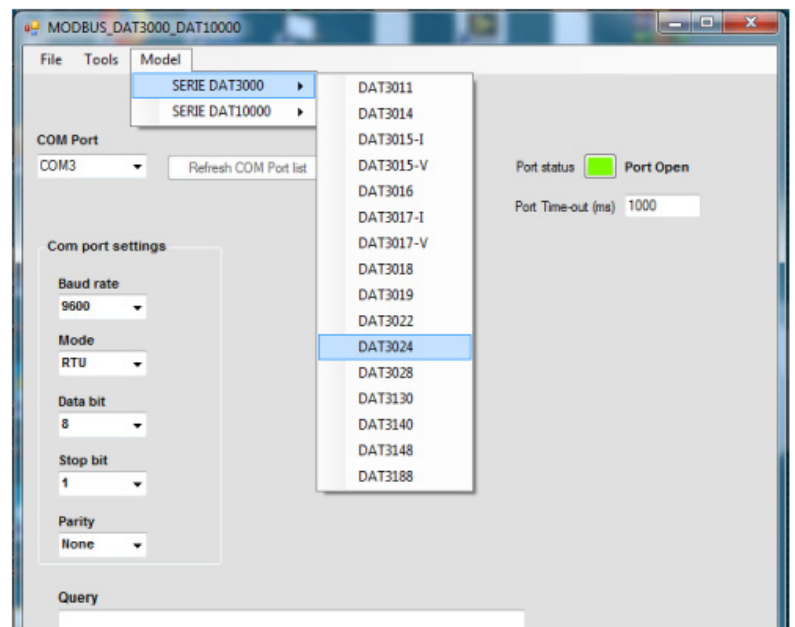
Set Up Communication.

1. The software should automatically select the correct comms port. It is possible to override the comms port or refresh if you change the physical port.
2. Choose the correct Com port settings.
3. Click Open Com. The Port Status will change to green.
4. The default Baud rate is either written on the Label or 38400bps. If the INIT is shorted, the Baud rate will be 9600bps, RTU, Data Bit 8, Stop Bit1, Parity None.



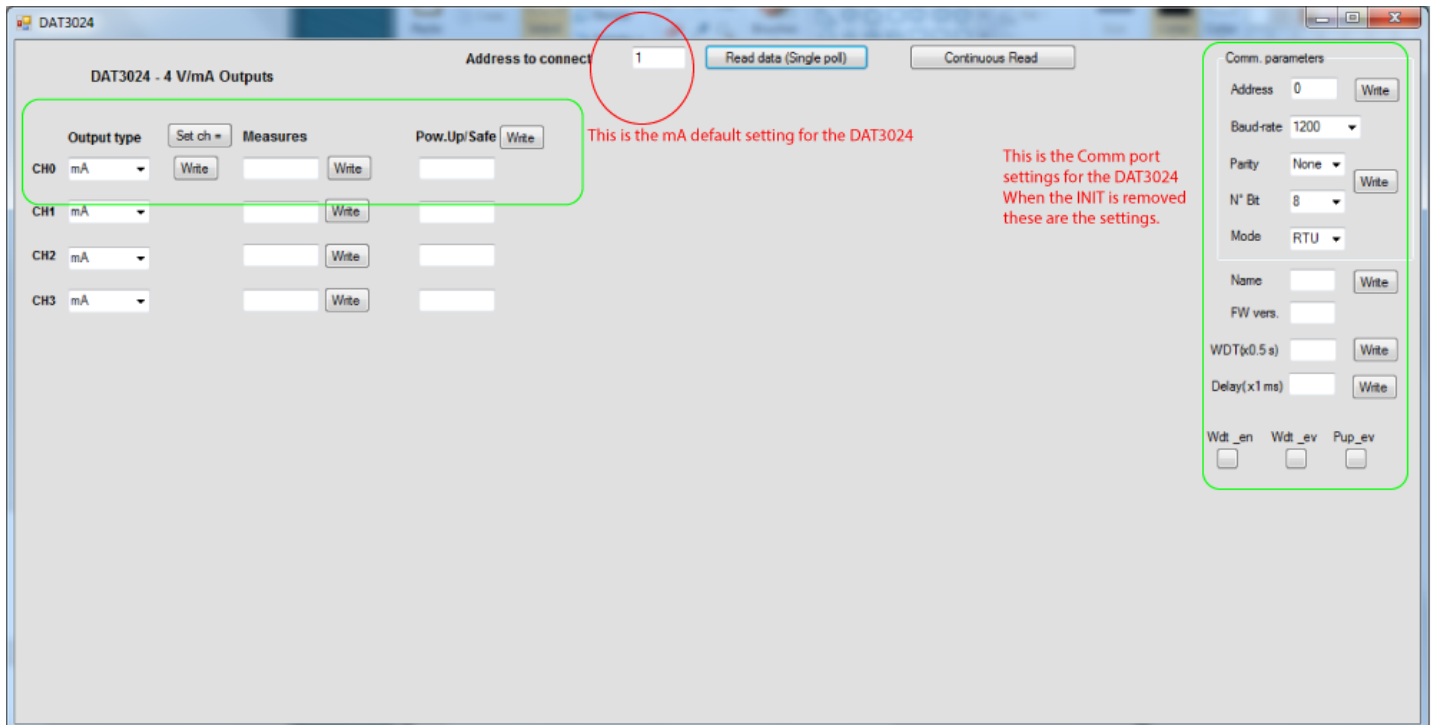
Selecting the Modbus RTU Slave DAT3024.

1. The green light only indicates the port is open. Even if the settings are incorrect the light will turn green.
2. Select Model and the drop down navigation will appear.
3. Select DAT3024 for Current or Voltage.



Setting the address of the DAT3024 Modbus Slave.

1. Change the Address to connect to 1 or what is written on the label.
2. Click “Read data” (Single poll).
3. The screen should now display the below screen.
4. If there is a function error, no CRC match, check Baud rate, RS485 connection or Modbus Slave Address.
5. This needs to be fixed before further progress. If you have not used the INIT on terminals C and D, it is highly recommended that you do now. Then return to Communication set up and set the settings to 9600bps, RTU, Data Bit 8, Stop Bit1, Parity None.
6. This will always be the correct setting unless it differs on the label.



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Providing a 4-20 mA output from the DAT3024 Modbus Slave.

1. If communication is established the screen below should appear, you will see on the right side the default Comm parameters without the INIT link.
2. Select the output type under the Output type label and select mA for Current.
3. Below the Measures tab, type the desired output. Then click Write.
4. Connect a Multimeter to the correct output and check that the DAT3024 is outputting the desired Current.

The screenshot displays the DAT3024 software interface. At the top, it shows the device name 'DAT3024' and the title 'DAT3024 - 4 V/mA Outputs'. The 'Address to connect' is set to '1'. There are buttons for 'Read data (Single poll)' and 'Continuous Read'.

The main interface is divided into several sections:

- Output type:** A dropdown menu is set to 'mA'. Below it are four channels (CH0, CH1, CH2, CH3), each with a 'mA' dropdown and a 'Write' button.
- Measures:** A text input field contains '6.000', with a 'Write' button next to it. Below it are three more channels, each with a '-0.001' input and a 'Write' button.
- Pow.Up/Save:** A text input field contains '-0.001', with a 'Write' button next to it. Below it are two more channels, each with a '-0.001' input and a 'Write' button.

On the right side, there is a 'Comm. parameters' panel with the following settings:

- Address: 1
- Baud-rate: 38400
- Parity: Mark
- N° Bt: 8
- Mode: RTU
- Name: 3024
- FW vers: 7100
- WDT(x0.5 s): 10
- Delay(x1 ms): 40

At the bottom of the 'Comm. parameters' panel, there are three checkboxes: 'Wdt_en' (unchecked), 'Wdt_ev' (unchecked), and 'Pup_ev' (checked).

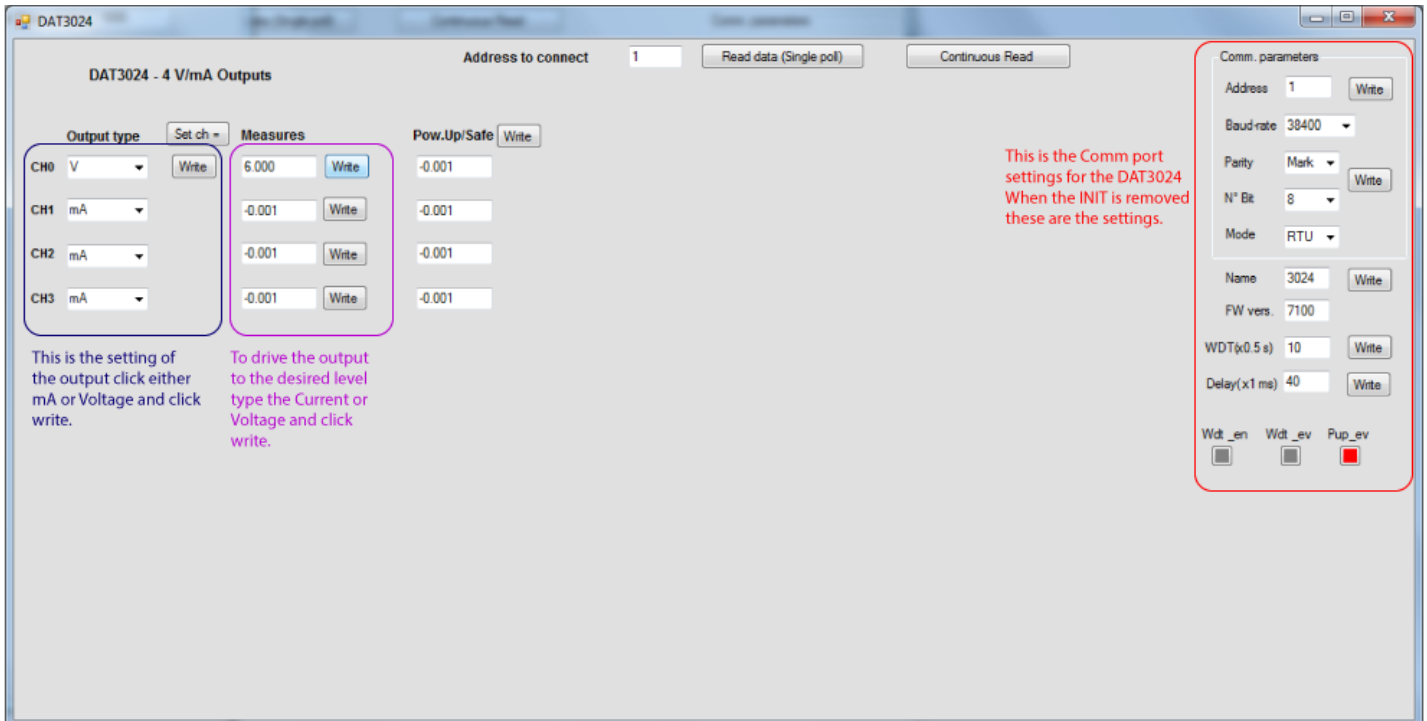
Two text annotations are present:

- A purple box highlights the 'Output type' and 'Measures' sections with the text: "This is the setting of the output click either mA or Voltage and click write." and "To drive the output to the desired level type the Current or Voltage and click write."
- A red box highlights the 'Comm. parameters' panel with the text: "This is the Comm port settings for the DAT3024. When the INIT is removed these are the settings."

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Providing a 0-10 Volt output from the DAT3024 Modbus Slave.

1. Select the output type under the Output type label and select V for Voltage.
2. Below the Measures tab, type the output required. Then click Write.
3. Connect a Multimeter to the correct output and check that the DAT3024 is outputting the desired Voltage.



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Explanation of Communication parameters for Modbus Slave DAT3024.

Address

The actual address of the DAT3024 connected.

Baud rate

The actual baud rate of the DAT3024 connected.

Parity

The actual parity mode of the DAT3024 connected.

N°Bit

The actual number of bit selection of the DAT3024 connected.

Mode

The actual Modbus modality (RTU or ASCII) set for the DAT3024 connected

Name

The string read from the DAT3024 of 4 ASCII characters used to name it example DAT3024.

FW Vers

The firmware version read from the DAT3024.

WTD (x0.5)

The watchdog time read from the DAT3024 is in steps of 0.5 seconds.

Delay (x1 ms)

The delay time between the reception of a query and transmission of the response. Expressed as steps of 1 millisecond.

Button Wdt_en

Indicates if the bit to enable the watchdog time of the device has been set: red indicates the bit is set, grey indicates the bit is not set.

Button Wdt_ev

Indicates if the watchdog timer event has occurred: red if the event occurs, grey if the event has not occurred. This condition is also signaled by the blinking of the led "PWR" of the device and the safe state of the digital outputs.

Button Pup_ev

Indicates if the Power up event has occurred: red if the event has occurred, grey if the event has not occurred. This condition is also signaled by the power-up state of the digital outputs.

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Call 561 779 5660 for technical support.