

DATEXEL LLC

Modbus RTU DAT10024 with a Voltage and Current output.

Set Up the DAT10024 with Software or DIP Switches.

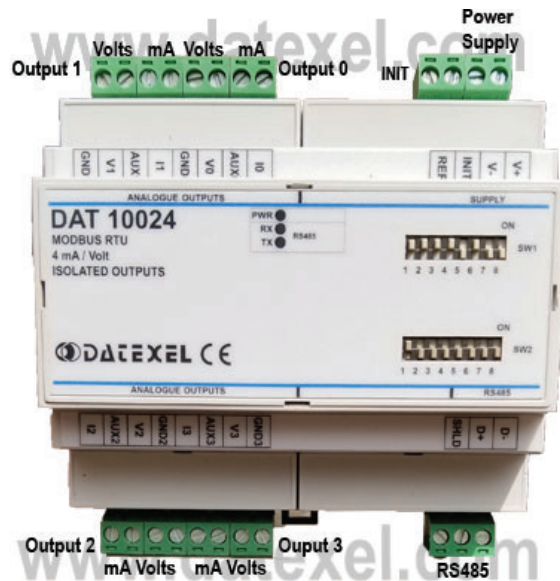
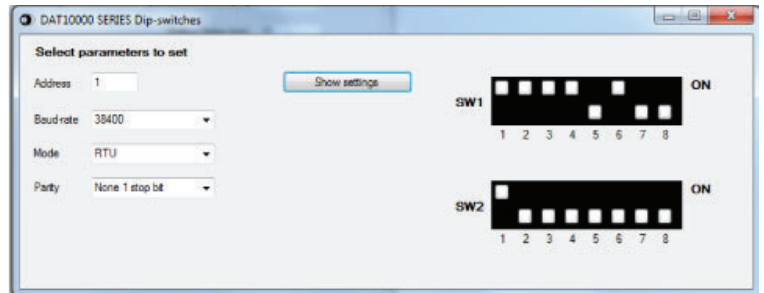
The DAT10024 comes by default with the following settings.

Address 1, RTU, Parity None, Baud Rate 38400.

The DIP Switches can be changed to your particular requirements. The options for the DIP Switch setting can be found on the Datasheet or the DAT3000-10000 software under the Wizard tab. For the above settings SW1 should have 1,2,3,4 and 6 on. SW2 should just have 1 on.

Terminal Connections for Modbus RTU Analog output Module.

1. Connect 24 Vdc to V+ and V-.
2. Connect RS485 to D+ and D-.
3. Connect a Multimeter on I0 and AUX0 for the 4-20mA output for channel 0.
4. Connect a Multimeter on V0 and GND0 for the 0-10V dc output for channel 0.



It is advisable to use the DAT3580 to connect the DAT10024 to the PC. The advantage of using the DAT3580 is that it will isolate your PC from the DAT10024. 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.

www.datexel.com

Call 561 779 5660 for technical support.

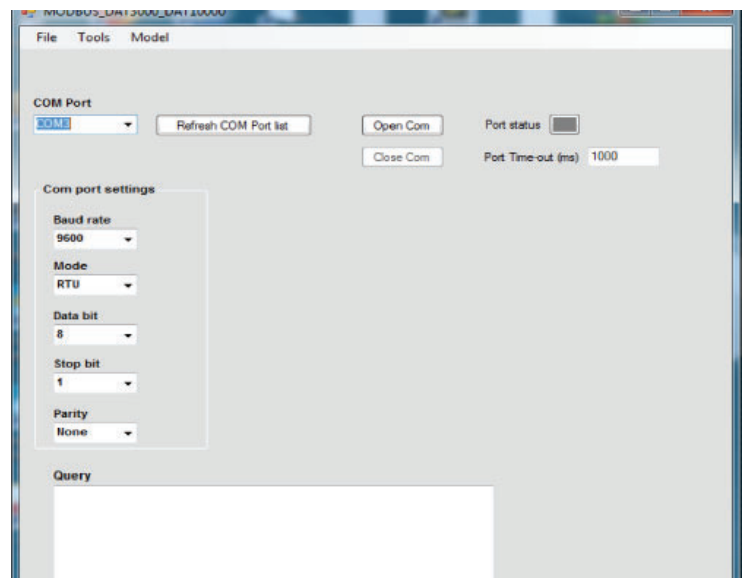
Set Up the PC.

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.



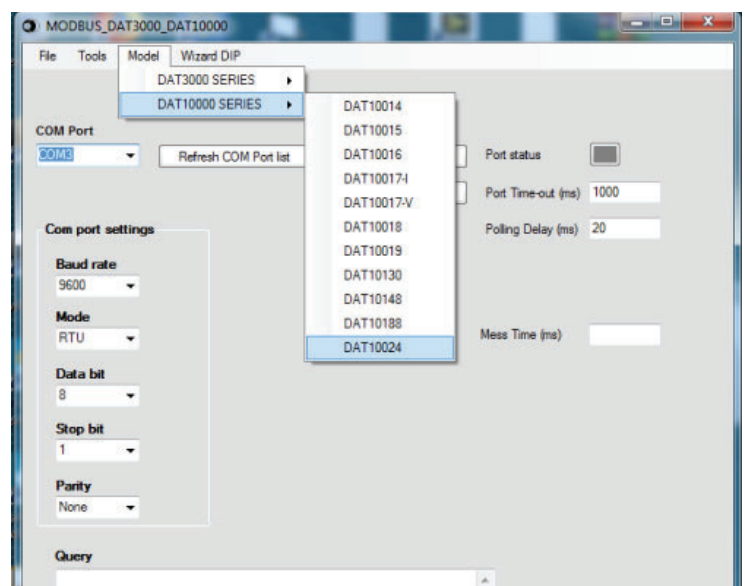
Set Up Communication.

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 Bit 1, Parity None.



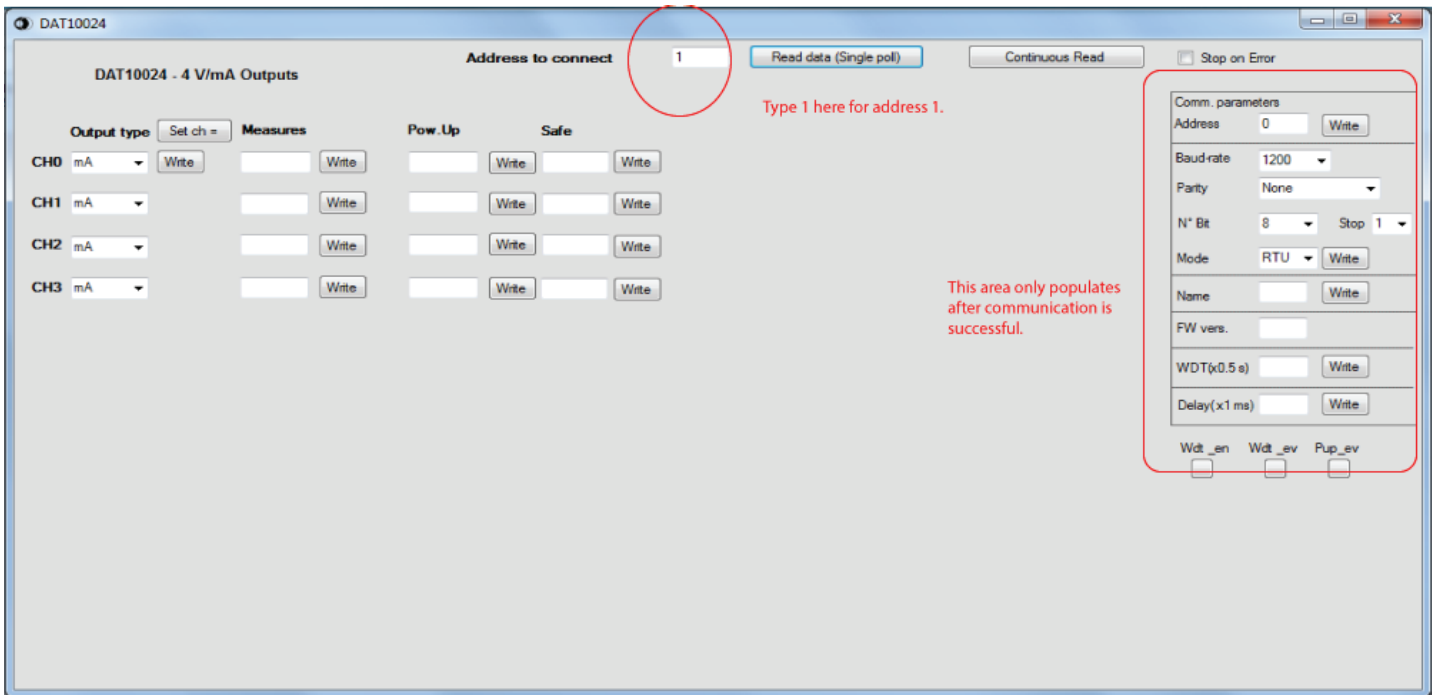
Selecting the Modbus RTU Slave DAT10024.

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 DAT10024 for Current or Voltage.



Setting the address of the DAT3024 Modbus Slave.

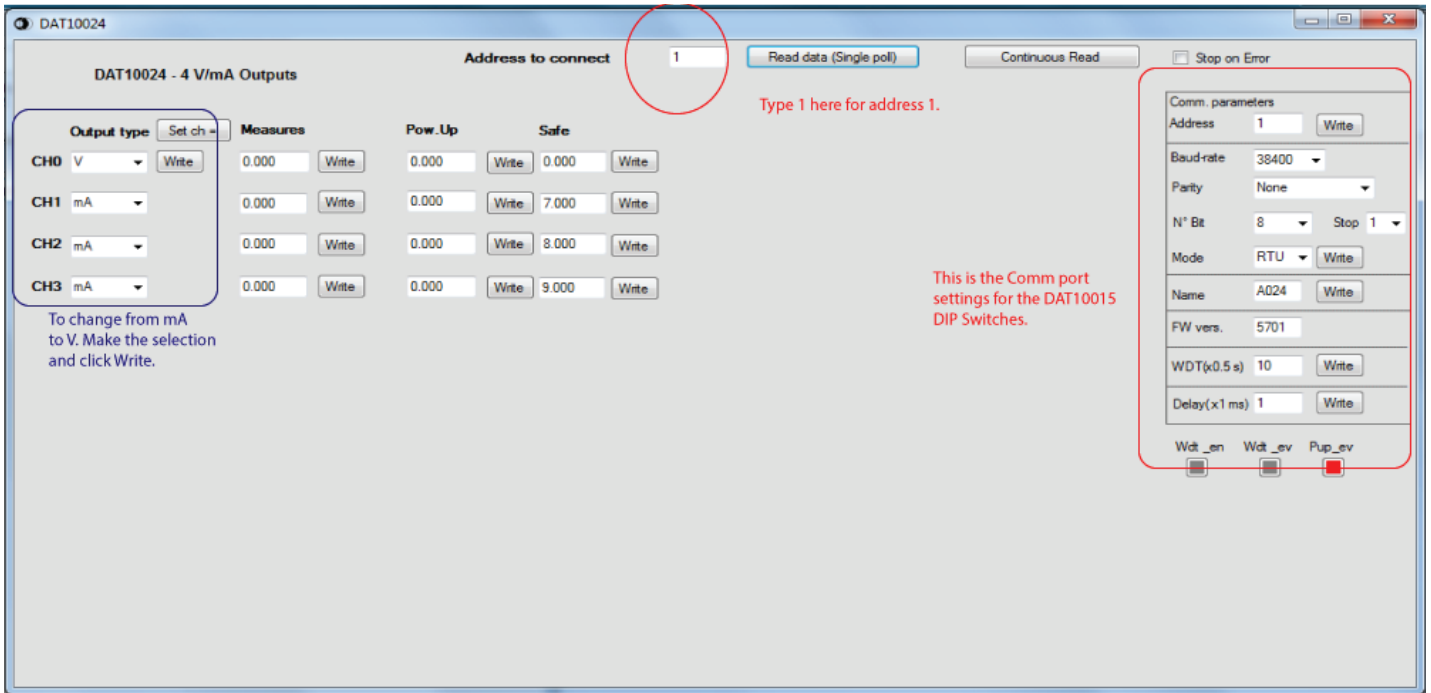
1. Change the Address to connect to 1 or whatever you have selected on the DIP Switch.
2. Click "Read data" (Single poll).
3. The screen should now display the below screen.
4. If there is a function error, no CRC match, check Baud rate, RS485 connection or Modbus Slave Address.
5. This needs to be fixed before further progress. Recheck DIP Switch settings to the wizard or the DIP Switch setting on the Datasheet.
6. If all else fails connect the INIT link. Reset the power, close the port, set the comms port settings to 9600bps, RTU, Data Bit 8, Stop Bit 1, Parity None and reopen the port. Select DAT10024 and then read data again.



www.datexel.com

Selecting the Voltage output on the DAT10024

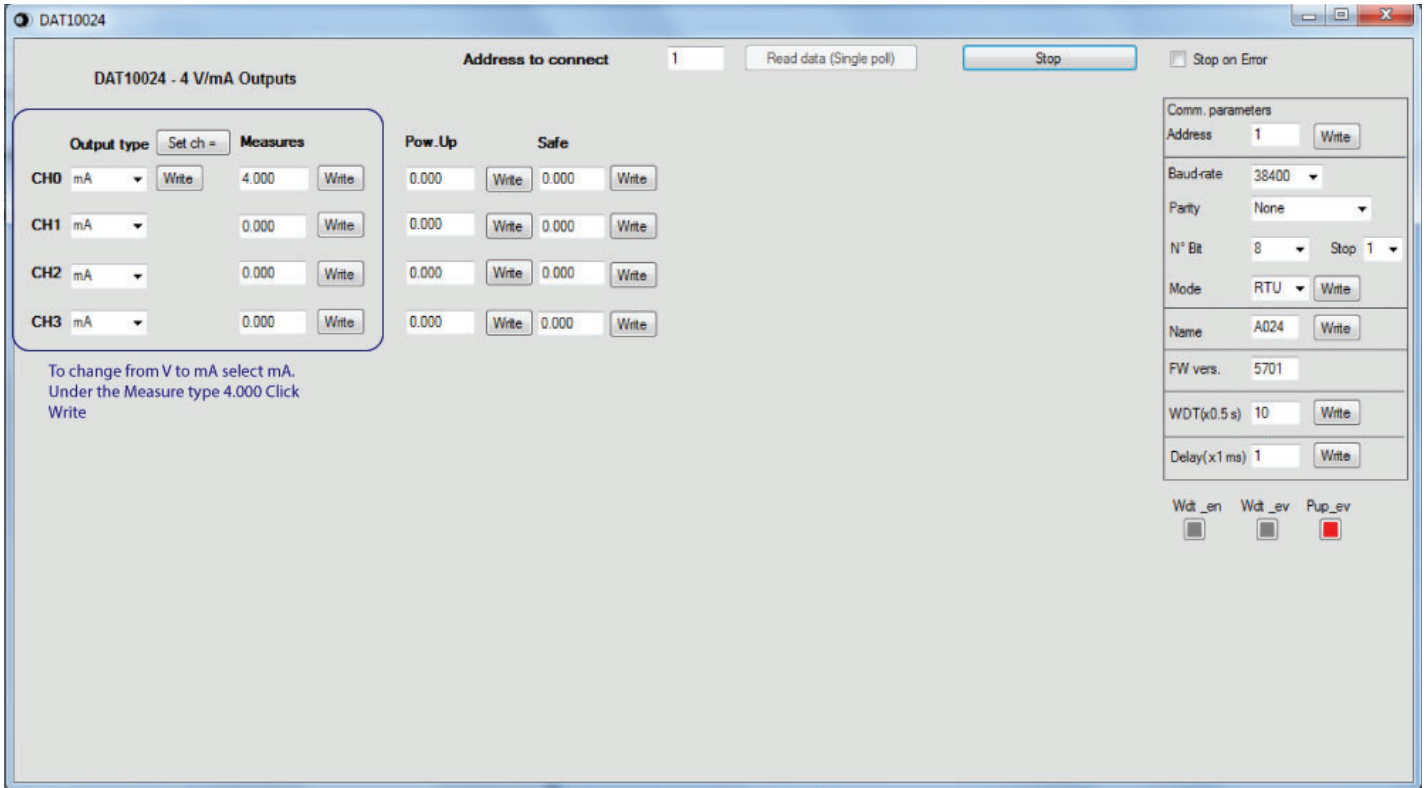
1. If communication is established the screen below should appear, you will see on the right side the DIP Switch settings Comm parameters.
2. Under the output type select Voltage or Current for this example we selected Voltage.
3. Below the Measures tab, type the desired output. Then click Write.
4. Connect a Multimeter to the correct output and check that the DAT10024 is outputting the desired Voltage.



www.datexel.com

Providing a 4-20mA output from the DAT10024 Modbus Slave.

1. To provide a 4mA output type under the Output type label and select mA for Current.
2. Below the Measures tab, type 4.000. Then click Write.
3. Connect a Multimeter to the correct output and check that the DAT10024 is outputting the desired Current.



www.datexel.com

Explanation of Communication parameters for Modbus Slave DAT10024.

Address

The actual address of the DAT10024 connected.

Baud rate

The actual baud rate of the DAT10024 connected.

Parity

The actual parity mode of the DAT10024 connected.

N°Bit

The actual number of bit selection of the DAT10024 connected.

Mode

The actual Modbus modality (RTU or ASCII) set for the DAT10024 connected

Name

The string read from the DAT3024 of 4 ASCII characters used to name it example DAT10024.

FW Vers

The firmware version read from the DAT10024.

WTD (x0.5)

The watchdog time read from the DAT10024 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.

www.datexel.com

Call 561 779 5660 for technical support.