

# USB One Relay Unit RS232 Serial controlled



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A general purpose One Relay controller for connection to a PC's USB port using VCP (Virtual COM port).

Control devices using your PC.

For 12V/24V DC 15A or 120V/220V AC at 10A max.

**Complete including:**

- One USB One relay controller

**Dimensions:**

100 mm / 58 mm / 24 mm

**Relay datasheed:**

<http://sigma-shop.com/manuals/RAS.pdf>

**Drivers** are available to work with the following operating systems :

Windows Server 2008 R2

Windows 7

Windows 7 x64

Windows Server 2008

Windows Server 2008 x64

Windows Vista

Windows Vista x64

Windows Server 2003

Windows Server 2003 x64

Windows XP

Windows XP x64

Windows 2000

Windows ME

Windows 98

Linux

Mac OS X

Mac OS 9

Mac OS 8

Windows CE.NET (Version 4.2 and greater)

**Communication Parameters :**

8 Data, 1 Stop, No Parity

Baud rate : 9600

**Relay commands:**

"FF 01 00" - OFF command

"FF 01 01" - ON command

**NOTE : Each command consists in 3 binary bytes (shown in hexadecimal below) without any space!**



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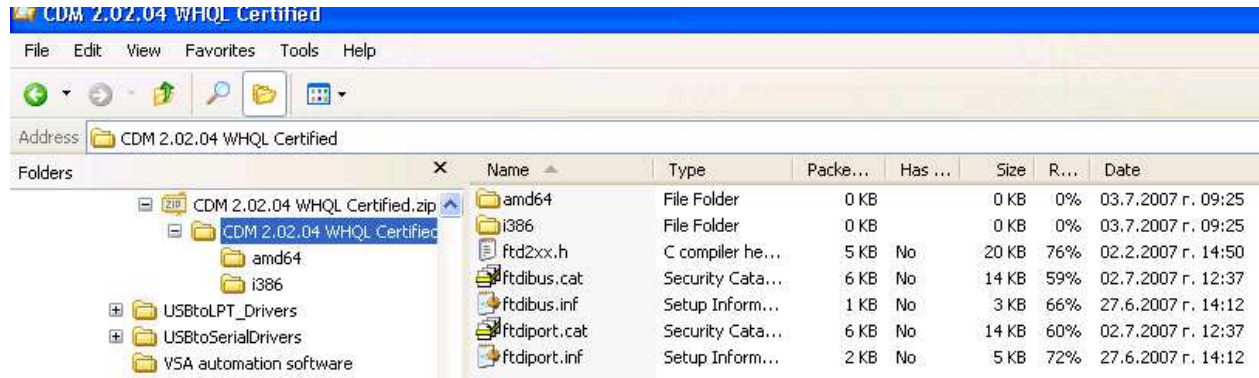
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You have to download the drivers from FTDI website :

<http://www.ftdichip.com/Drivers/VCP.htm>

<http://www.ftdichip.com/Drivers/CDM/CDM%202.04.06%20WHQL%20Certified.zip>

Unzip it to your own folder .....

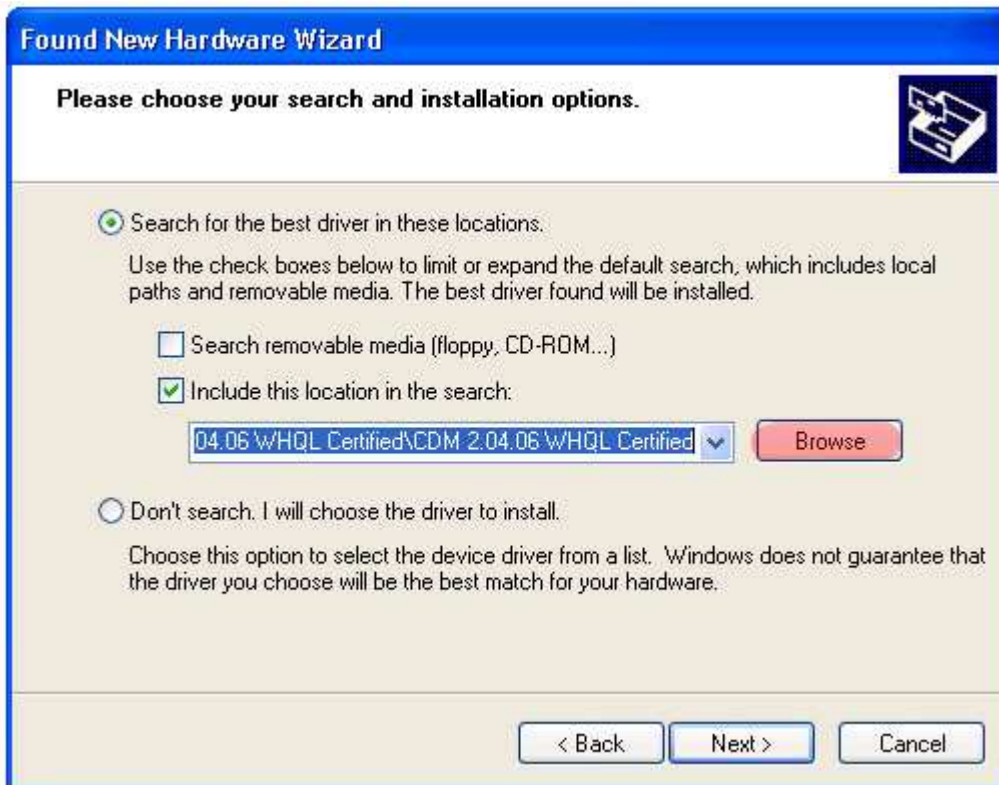


When you connect the USB board, the following message appears: FOUND NEW HARDWARE and drives need to be installed.

When you connect the USB board to the PC the red and green LED flashes 2,3 times and turn off. When the red LED and the green LED flashes means that there is a communication between the programmer and PC.

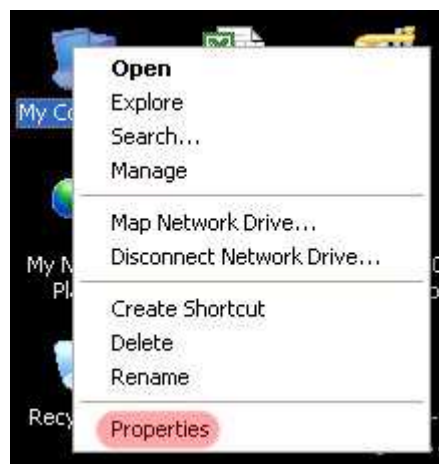
#### 1. Drivers' installation:

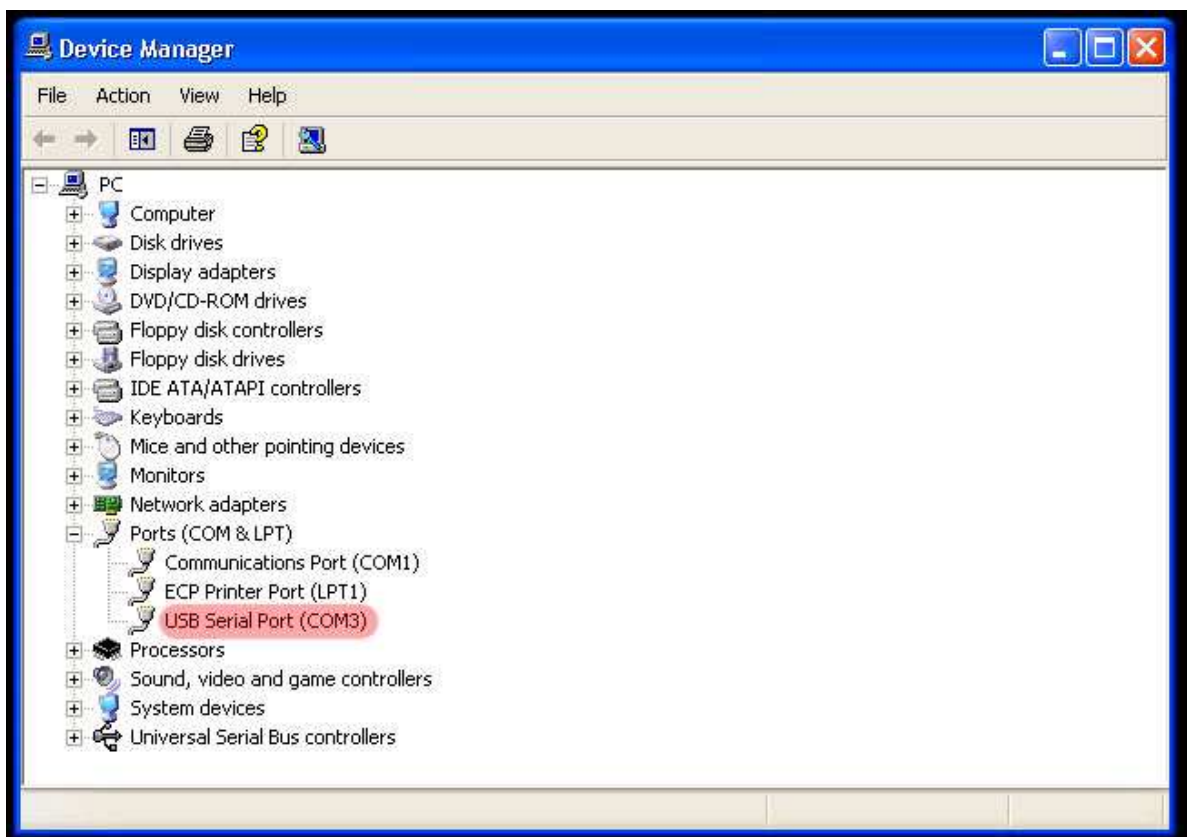






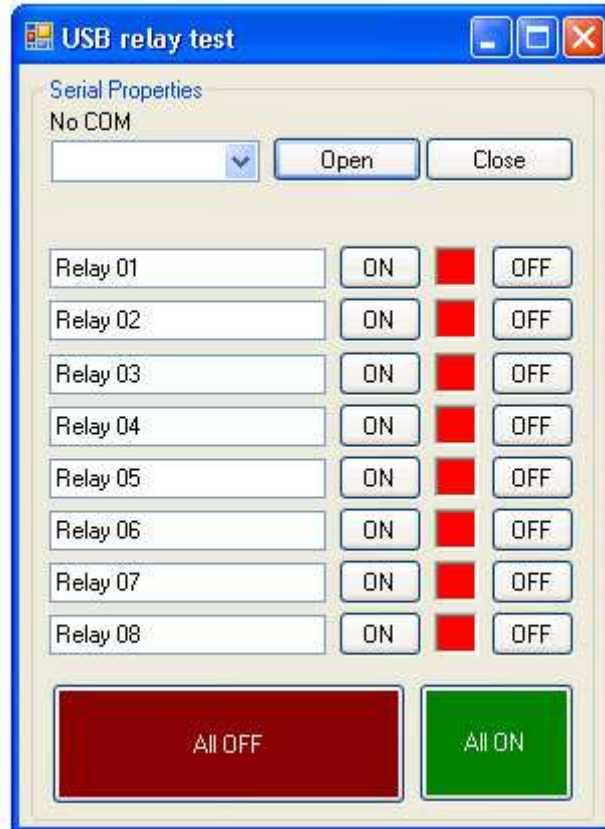
After the drivers' installed, an additional COM port appears in the Device Manager of Windows- usually it is COM3:



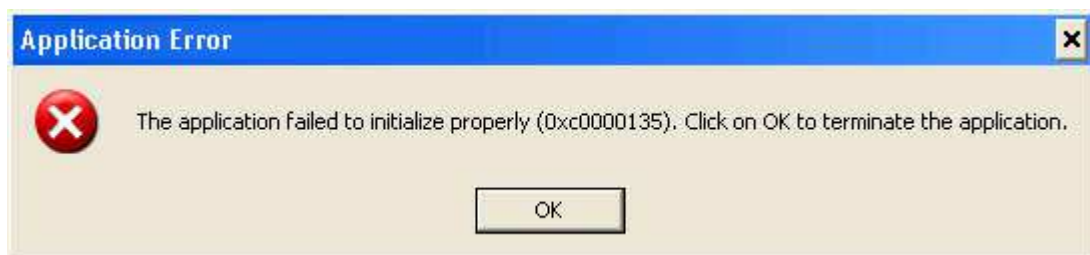


## Testing :

1. Download "USBRelay\_test.exe" from :  
[http://www.sigma-shop.com/information/USB\\_Relay/USBRelay\\_test.exe](http://www.sigma-shop.com/information/USB_Relay/USBRelay_test.exe)
2. Connect board to USB and run software.  
If everything is ok this should appear :



If you get this message you see the following error :



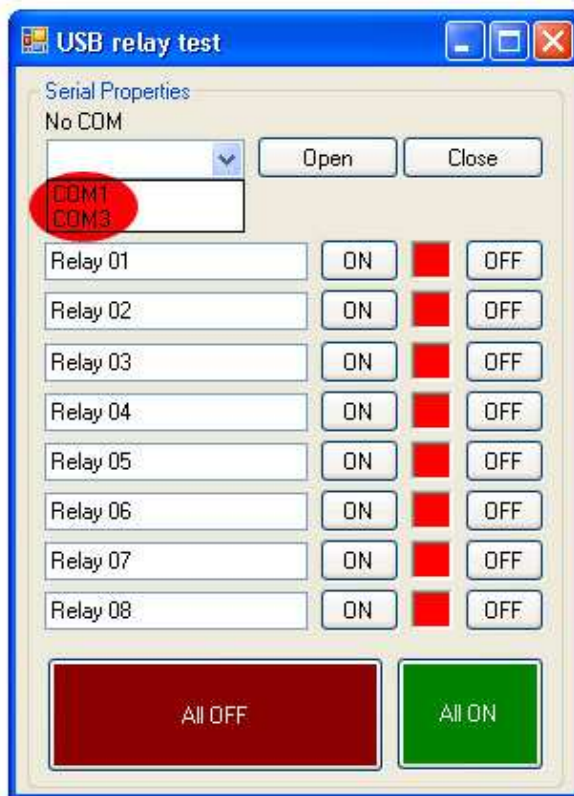
that means that you do not have the latest version of Microsoft .NET Framework installed on your computer.

The program has to be installed on your computer in order to use the software.

You can download this from [there](#)

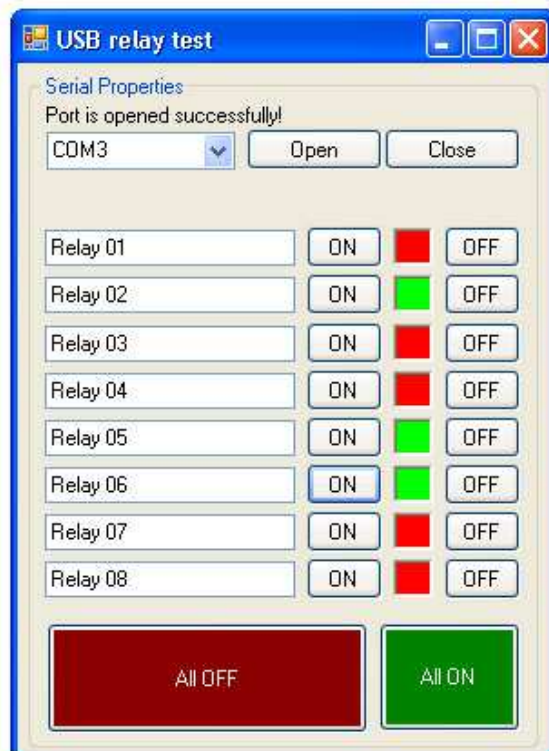
<http://www.microsoft.com/downloads/details.aspx?FamilyId=333325FD-AE52-4E35-B531-508D977D32A6&displaylang=en>

3. Software will detect all COM ports you have and there must be one more (Virtual COM port) :



4. Choose COM port. Click on "OPEN" button and using "ON" and "OFF" buttons you can test relays.

**NOTE : USB one relay no support "All ON" and "All OFF" buttons**



## Software examples :

ProfiLab EXPERT by ABACOM :



You can made similar application with ProfiLab within minutes !

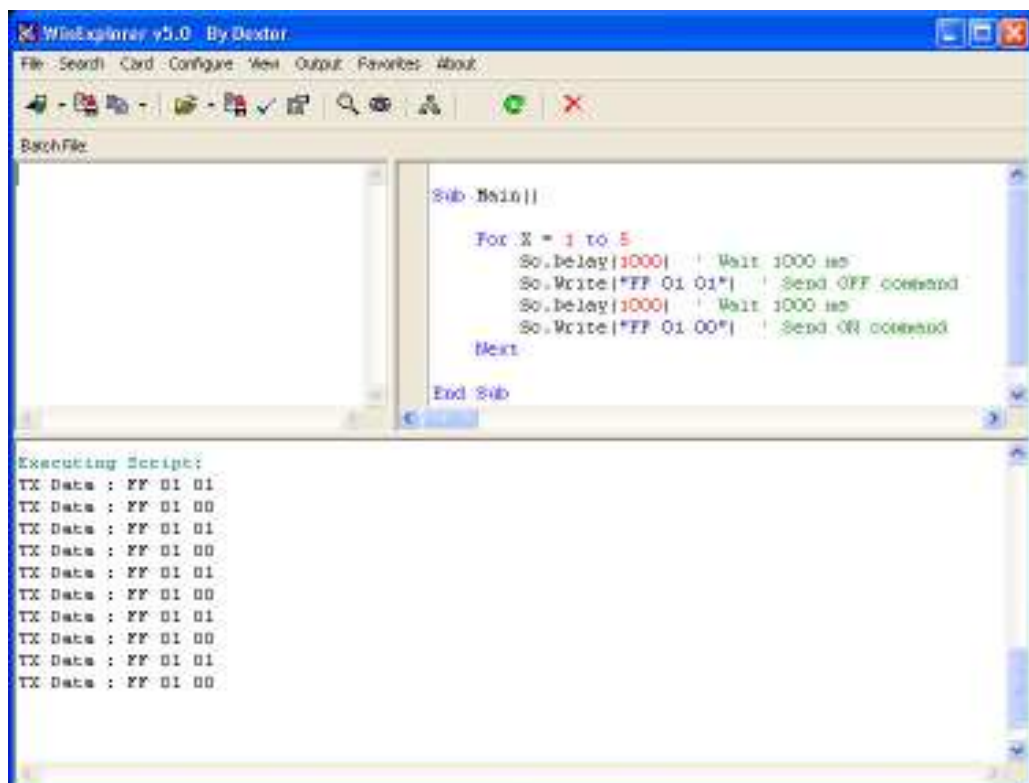
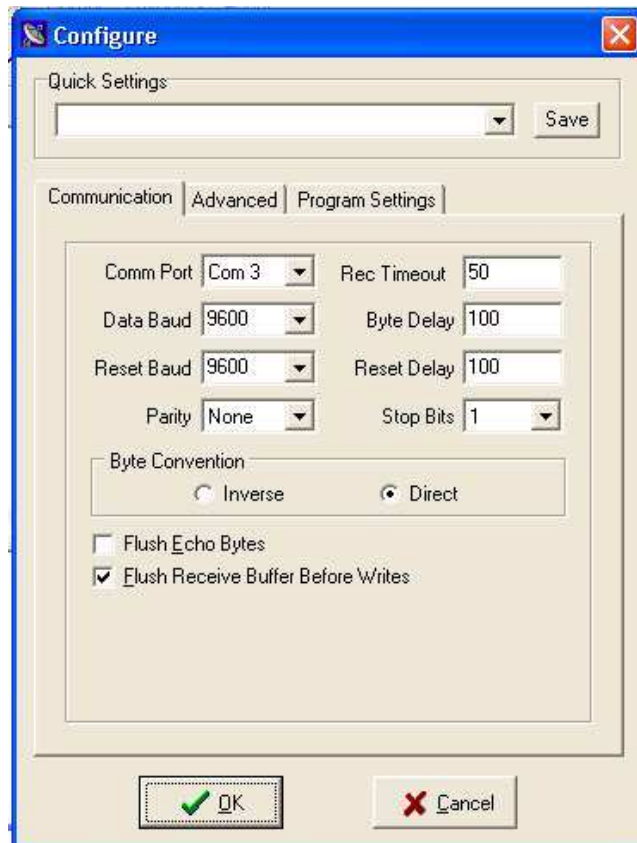
Application :

[http://www.sigma-shop.com/information/USB\\_Relay/ABACOM\\_ProfiLabExpert\\_one\\_channel\\_relay.zip](http://www.sigma-shop.com/information/USB_Relay/ABACOM_ProfiLabExpert_one_channel_relay.zip)

ABACOM homepage :

<http://www.abacom-online.de>

WinExplorer :



[http://www.sigma-shop.com/information/USB\\_Relay/WinExp.zip](http://www.sigma-shop.com/information/USB_Relay/WinExp.zip)

[http://www.sigma-shop.com/information/USB\\_Relay/USB\\_8Relay\\_test.Xvb](http://www.sigma-shop.com/information/USB_Relay/USB_8Relay_test.Xvb)

### **Sample VB6 code :**

```
Private Sub cmdOff_Click()  
With MSComm1  
'make sure the serial port is open  
If .PortOpen = False Then .PortOpen = True  
'send the data  
.Output = Chr$(255)  
.Output = Chr$(1)  
.Output = Chr$(0)  
End With 'MSComm1  
End Sub
```

```
Private Sub cmdOn_Click()  
With MSComm1  
'make sure the serial port is open  
If .PortOpen = False Then .PortOpen = True  
'send the data  
.Output = Chr$(255)  
.Output = Chr$(1)  
.Output = Chr$(1)  
End With 'MSComm1  
End Sub
```

### **Sample C# code :**

```
private void button1_ON_Click(object sender, EventArgs e)  
{  
serialPort1.Write(new byte[] { 0xFF, 0x01, 0x01 }, 0, 3);  
}  
  
private void button1_OFF_Click(object sender, EventArgs e)  
{  
serialPort1.Write(new byte[] { 0xFF, 0x01, 0x00 }, 0, 3);  
}
```

## Linux :

Instructions to install new driver: You may require the sources matching the current kernel to be installed on your system (and built).

To install the ftdi\_sio driver use the following steps:

1. Create a temporary folder in your linux machine.
2. Extract the files from ftdi\_sio.tar.gz file to your temporary folder  
"gunzip ftdi\_sio.tar.gz"  
"tar -xvf ftdi\_sio.tar"
3. Build the driver  
"make"
4. Plug in your ftdi device
5. Check to see if default driver was loaded  
"lsmod" - you will see ftdi\_sio if a driver is loaded
6. Remove the default installed driver  
"rmmod ftdi\_sio"
7. Install the newly built driver  
"insmod ftdi\_sio.o"

### NOTES:

- 1.This driver was adapted from the 2.4.32 kernel to support both the 2232C and 232R chip
- 2.There is no need to follow this procedure if you want 232R chip supprt. The 232BM driver will be sufficient.Changes made to the driver for the 232R chip are purly cosmetic (plug/unplug will appear as a 232R chip in the kernel log).

In this case the driver is correctly installed and with the bash's command :

-----  
The old kernel's "echo" commands:

```
stty -F /dev/ttyUSB0 9600
echo $'\xff\x01\x01' > ttyUSB0 // the relay 1 go ON.
```

```
stty -F /dev/ttyUSB0 9600
echo $'\xff\x01\x00' > ttyUSB0 // the relay 1 go OFF.
```

-----  
The new kernel's "echo" commands:

```
stty -F /dev/ttyUSB0 9600
echo -e '\xff\x01\x01' > /dev/ttyUSB0 // the relay 1 go ON.
```

```
stty -F /dev/ttyUSB0 9600
echo -e '\xff\x01\x00' > /dev/ttyUSB0 // the relay 1 go OFF.
```