

Below is example Microsoft C#.net code to write and read a serial port (including a USB "Virtual COM Port") to communicate with Mark-10 instruments which support serial communication.

```
// Example C#.net code for writing and reading a serial port
// Can wrap the writes and reads into separate, generalized functions,
// for example, "WriteCommand(string command)" and "string ReadResponse()".

// First open the serial port (baud rate, etc.) configured at design or run time.
// It is good practice to use try-catch blocks for exception handling.
serialPort1.Open();

if (serialPort1.IsOpen) // serialPort1 is the name of the serial port component
{
    try // In case there is a read timeout or other exception occurs
    {
        // Write the command (refer to GCL2 commands in the instrument's User Guide)
        // followed by a carriage return character (0xD)
        serialPort1.Write("?r");

        // Read the response. ReadLine() will wait (for a timeout) until the termination
        // character (LF (or "new line") = "\n" = 0xA by default) is received.
        string response = serialPort1.ReadLine().Trim();

        // Typical response from a Mark-10 gauge: "3.258 lbF\r\n" so need to parse
        // the string to get the floating-point numeric value and the unit.

        // For example:
        // Can parse a string on a space as follows:
        // string[] str = response.Split(' '); // str[0] is the load, str[1] is the unit

        // Convert the numeric ASCII part of the string to a float or double:
        //double d_number, load;
        //if (double.TryParse(str[0], out d_number))
        //    load = d_number;
        //else
        //    // Do whatever error handling desired.
    }
    catch (Exception ex) // Could look for a TimeoutException explicitly
    {
        Debug.Print("Serial Port Exception: " + ex.Message); // For example
    }
}
else
{
    // Do whatever, such as inform the user that the serial port is not open.
}
```

There is plenty of serial port coding information and examples for Visual Studio in its Help as well as on line. Please contact [info@mark-10.com](mailto:info@mark-10.com) if more information is needed.

