

GS180

Universal isolated USB to
serial converter and RS232
to RS485/422 converter.



Multifunctional unit, converts:

- › USB \leftrightarrow RS232/485/422 or
- › RS232 \leftrightarrow RS485/422

Powered via **USB** port or **external power** adaptor

Compact unit, easily hand-held or wall/DIN rail mounted

Application auto-detection! Simply wire up your GS180 to
suit your needs, and let the unit configure itself!

Specifications

Available sockets

<i>USB (B type)</i>	USB 2.0 (5V DC)
<i>DB9 male (or female)</i>	RS232 to RS485/422
<i>3-pin screw terminal</i>	RS232
<i>5-pin screw terminal</i>	RS485/422

Converts USB \rightleftharpoons RS232/485/422 or RS232 \rightleftharpoons RS485/422

Kit contains

- 1x GS180
 - 1x USB type A to type B cable
 - 1x 4-core RS232 cable + 2x DB9-female to RJ11 adaptors
 - 1x Power adaptor (250V/5V 1A with USB connector)
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Supply voltage 5V DC. Powered via USB port or external power adaptor

Current 130mA max

Operating temperature -10-+70°C

Isolated data transmission

RS485/422 isolation galvanic and RF coupling eliminates long term optocoupler drift. 2500V RMS 1 minute.

Simplified configuration program, with 1-click conversion from RS232 \rightleftharpoons RS485/422

Supports multiple baud rates

<i>USB \rightleftharpoons RS232/485/422</i>	300-230.4K baud
<i>RS232 \rightleftharpoons RS485/422</i>	300-115.2K baud

Default settings for RS232 to RS422/485 conversion

Baud: 9600, Parity: None, Data bits: 8, Stop bits: 1

Casing 25H x 70W x 108D (mm). IP rating 20.

Mounting

- DIN rail* 35mm. Requires GS180-DR bracket (standard)
 - Wall mount* Requires GS180-WM wall bracket (optional)
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Accessories (Optional)

Wall mount bracket (order code GS180-WM)

LED Indicators

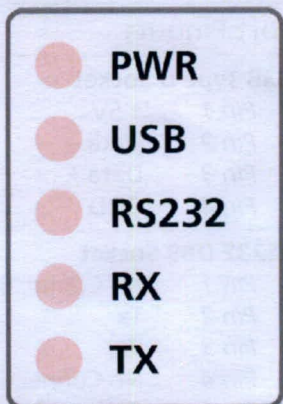
PWR lights up when power is supplied to the GS180 *USB 5V DC* port via your computer's USB port or the external power adaptor.

USB lights up when a USB or power cable is connected to the GS180 *USB 5V DC* port, **and there is no RS232 cable connected to the GS180 RS232 DB9 port**. This indicates that the GS180 converter is ready to convert from USB ⇌ RS232/485/422.

RS232 lights up when an RS232 cable is connected to the GS180 *RS232 DB9* port. (Please note that the USB cable or external power adaptor must also be connected, as this supplies power to the unit.)

RX lights up when the GS180 converter is receiving data from the *RS232 Screw Terminal* or *RS485/422* ports.

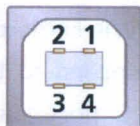
TX lights up when GS180 converter is transmitting data to the *RS232 Screw Terminal* or *RS485/422* ports.



Port Pinouts

USB Type B Socket

<i>Pin 1</i>	+ 5V
<i>Pin 2</i>	Data -
<i>Pin 3</i>	Data +
<i>Pin 4</i>	GND



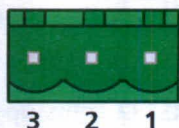
RS232 DB9 Socket

<i>Pin 1</i>	No Connection
<i>Pin 2</i>	Tx
<i>Pin 3</i>	Rx
<i>Pin 4</i>	No Connection
<i>Pin 5</i>	GND
<i>Pin 6-9</i>	No Connection



RS232 3-pin Screw Terminal

<i>Pin 1</i>	Rx
<i>Pin 2</i>	Tx
<i>Pin 3</i>	GND



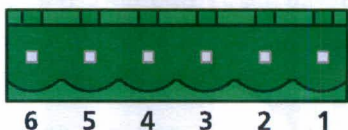
RS485/422 6-pin Screw Terminal

› RS422:

<i>Pin 1</i>	T - (Tx -)
<i>Pin 2</i>	T + (Tx +)
<i>Pin 3</i>	R - (Rx -)
<i>Pin 4</i>	R + (Rx +)
<i>Pin 5</i>	GND
<i>Pin 6</i>	No Connection

› RS485:

<i>Pin 1</i>	D - (Data -)
<i>Pin 2</i>	D + (Data +)
<i>Pin 3-4</i>	No Connection
<i>Pin 5</i>	GND
<i>Pin 6</i>	No Connection



Installing The Driver & GS180 Configurator Program



Double click on the **GS180.msi** installer and follow the on-screen instructions. This will install the *GS180 Configurator* and driver.

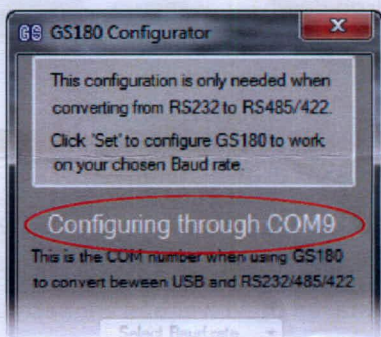
The *GS180 Configurator* program is used to change the default baud rate, bits or parity of the the GS180 converter to convert from RS232 to RS485/422, and to install the driver/comport for the USB interface.

Using the GS180 Configurator to Check the COM Port Number

The *GS180 Configurator* can be used to check the COM port number after connecting the GS180 converter to your computer:

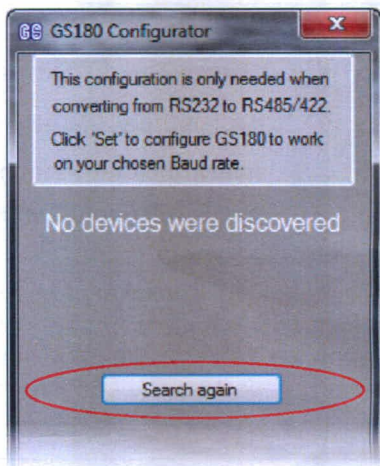
Double click the *GS180 Configurator* icon on your computer's desktop to launch the program.

If a GS180 converter is already connected to your computer, then the program will detect it automatically and display the COM port number as shown (right)

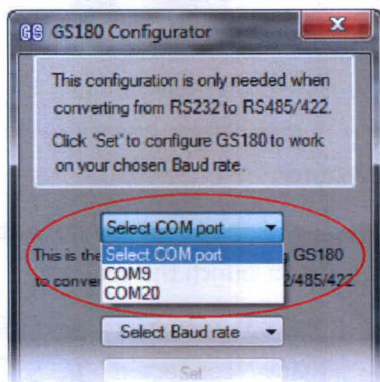


If you have not yet connected a GS180 converter to your computer, then the program will display a message which reads '**No devices were discovered**'.

At this point you may connect a GS180 converter and then click **'Search again'** to find the COM port number.



If you have more than one GS180 converter connected to your computer, then the program will find all of them and display their COM port numbers in a drop down list as shown (right).



Converting from USB ⇌ RS232/485/422

No configuration is necessary when using the GS180 to convert from USB ⇌ RS232 or RS485/422. Once you have installed the driver and connected the GS180 to one of USB ports on your computer, you may start to use it immediately.

The GS180 converter detects which cables are plugged in, so it is important to disconnect all cables that you are not using.

When converting from USB ⇄ RS485/422, the RS232 serial cable must not be connected to the *RS232 Screw Terminal*, as this will prevent conversion to RS485/422.

Please check the LED indicators before starting your transmission. If the USB LED is off but the RS232 LED is on, disconnect the RS232 cable from the *RS232 DB9* port on the GS180 converter.

Converting from RS232 ⇄ RS485/422

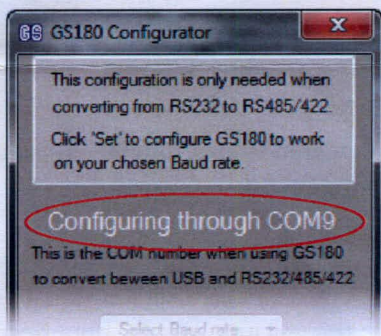
You need to use the *GS180 Configurator* program to set the Baud rate on the GS180 converter to your desired value before starting any transmission. Once the Baud rate is set, it will be saved until you set it again. The factory default setting is 9600 Baud.

Please note that the GS180 converter must be powered (via your computer's USB port or the external power adaptor) in order to convert from RS232 ⇄ RS485/422.

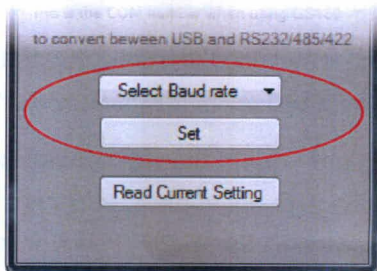
Double click the *GS180 Configurator* icon on your computer's desktop to launch the program.

After the program is fired up, it will find the new COM port number, which is used to configure the GS180 converter.

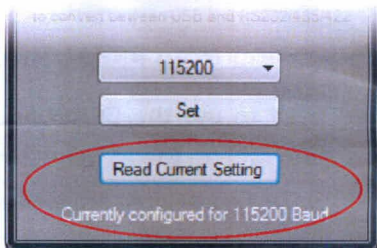
For more information on detecting your COM port number, see p5.



Choose your desired Baud rate from the 'Select Baud Rate' drop down list, then click 'Set'.

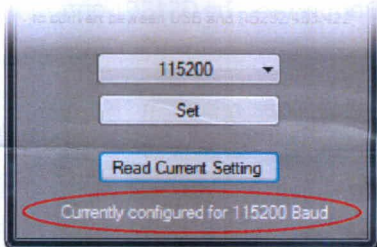


A message will be shown at the bottom of the window to indicate whether the operation was successful or not.



Once the Baud rate is set successfully, you can start your transmission. The G5180 converter may be shifted to any other computer or device which has standard USB ports, or it may be connected to the external power adaptor to convert between RS232 and RS485/422 at your desired Baud rate.

To check the current Baud rate configuration, click 'Read Current Setting'. A message will appear at the bottom of the window.



When converting from RS232 ⇌ RS485/422, the RS232 serial cable must not be connected to the RS232 RJ11 port, as this will just pass the data from RS232 to RS232.



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