

PGS6454-R Refrigerant Sensor Evaluation Kit

Posifa Technologies has created this evaluation kit to allow you to test our PGS6454-R refrigerant sensor.

Evaluation Kit Contents:

- Item 1 : USB to RS485 Adaptor
- Item 2 : Cable to connect adaptor and sensor
- Item 3: PGS6454-R Sensor

Evaluation Board Software

A driver program and additional required PC software are available for download [here](#).

Recommended US to RS485 Adapter Board

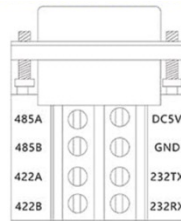
Dtech USB to RS485 Adapter



Model DT-5019C

Available from Amazon or on request to info@posifatech.com.

Breakout Connector Settings



Pin	Def.	Pin	Def.
RS485A	RS485A	DC 5V	power supply output
RS485B	RS485B	GND	Ground
RS422A	RS422A	RS232 TX	RS232 send
RS422B	RS422B	RS232 RX	RS232 receive

Set-Up Instructions

Step 1. Connect the USB to RS485 communication adapter to the computer and the PGS6454-R board

- The connection between the PGS6454-R and the communication adapter is shown below
- PGS6454-R power supply: **DC5V**
- Communication interface: **RS485**

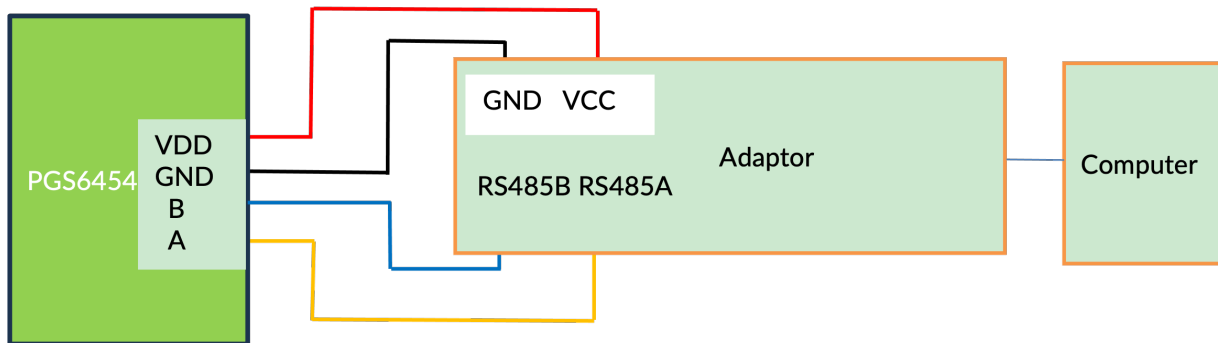


Figure 1

Step 2. Serial port configuration

- Open the software as shown in Figure 2
- Please select “H” in the protocol option box for H type sensor
- Please select “M” in the protocol option box for M type sensor
- Please check the initial communication parameters (device address, baud rate, parity bit, stop bit).
- Click the Start button to open the software after the setting is completed.

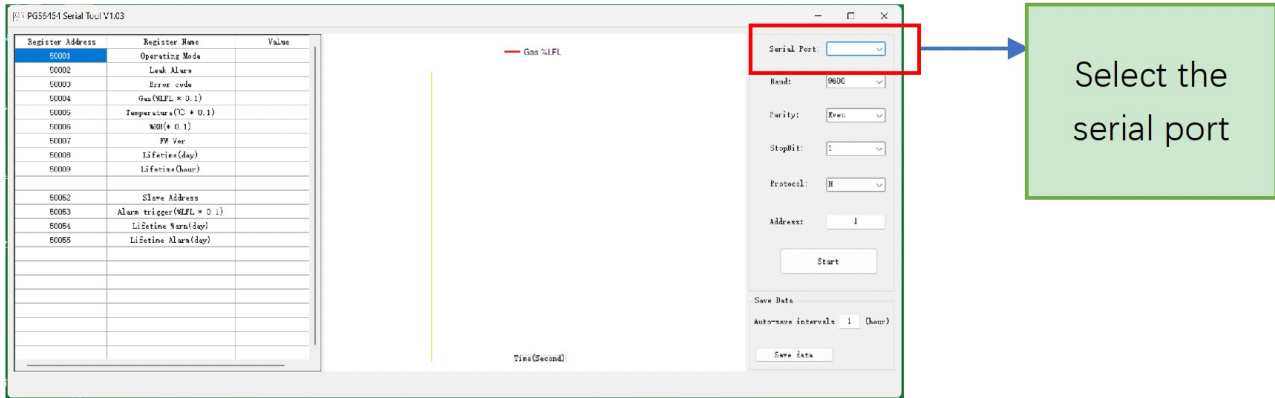


Figure 2

Step 3. Set the register

- Double click the cell with the red frame in Figure 3 and show the default value
- Input the setting value as shown in Figure 4
- When you finish setting Slave Address, the new address will not take effect immediately, and you need to restart or reset the PGS6454-R with power off to make it work.

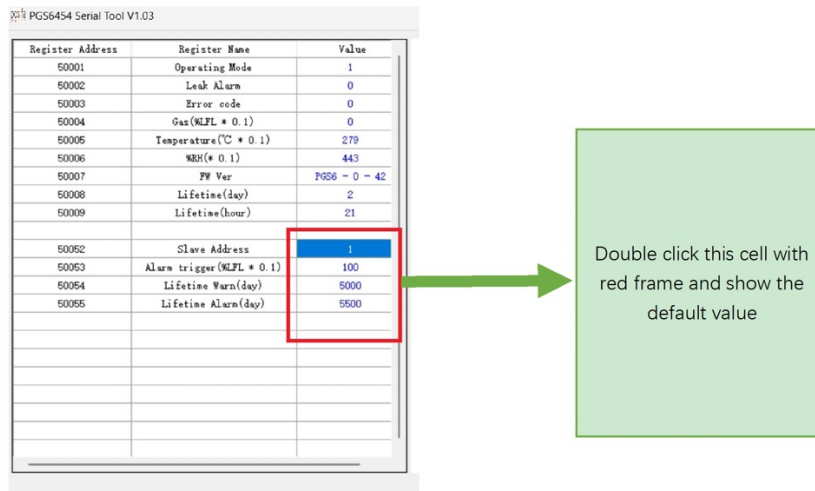


Figure 3

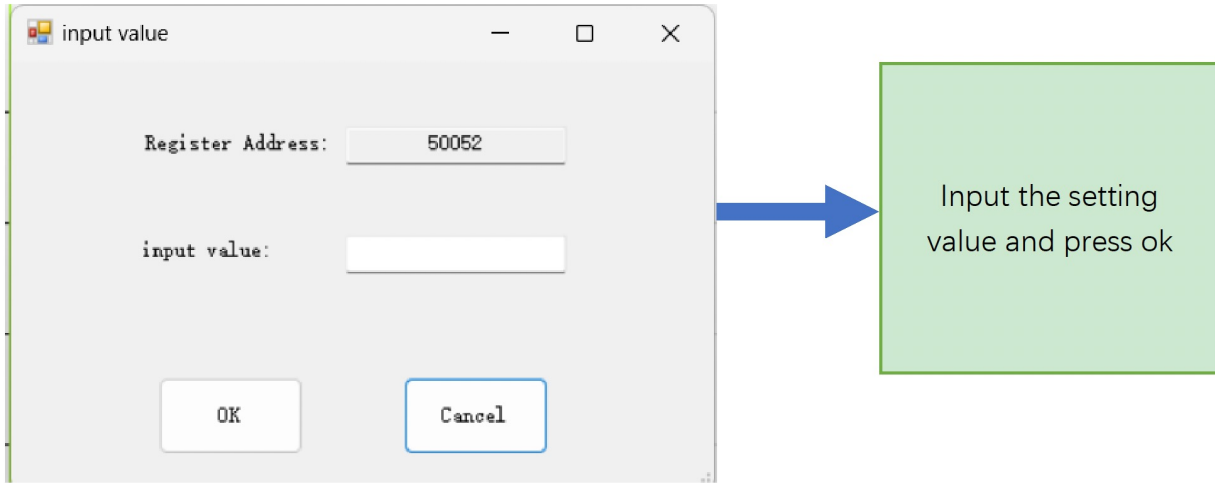


Figure 4

Step 4. Chart zoom function

- Slide the mouse to the left or right of the chart area that needs to be enlarged to locally zoom in and display the line, as shown in Figure 5, which is a partially enlarged line.

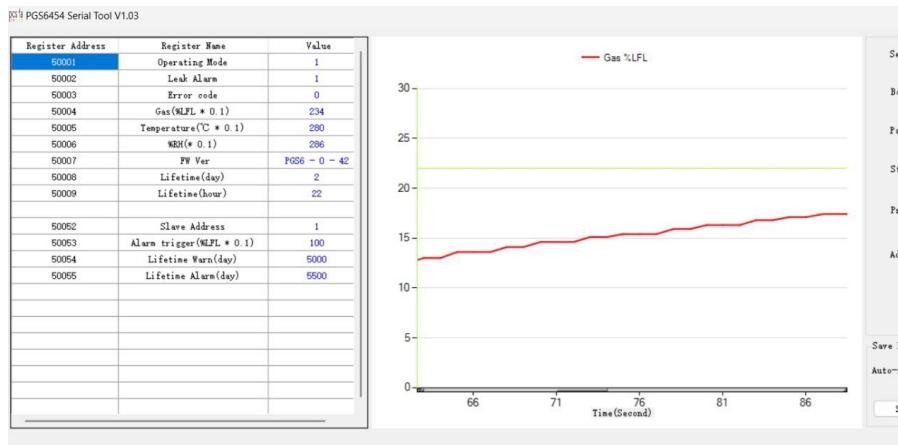
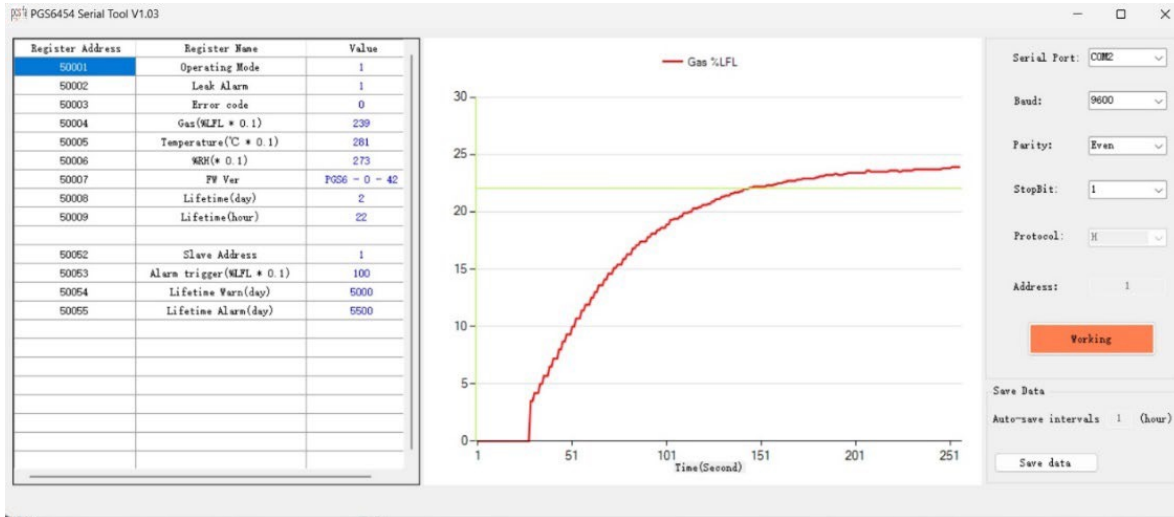
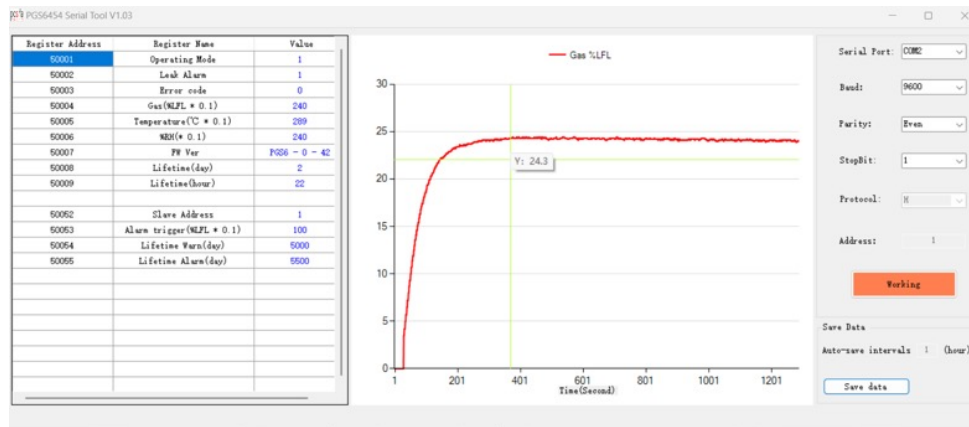


Figure 5

Right-click in the chart area to cancel the local zoom effect.



Hover over the line to display the LFL value, as shown below.



Step 5. Save your data

- There are two ways to save data: automatically and manually. The data is saved in .CSV format.
- By setting the interval time for auto-saving, the software will save the data automatically after the interval time. Manual Save Click the Save button to save in the folder you specify (file name is automatically set).
- No matter whether autosave or manual save, the software will clear the cache and re-collect the data. Keep all files in the same unzipped folder. Do not edit or modify any files

Appendix A: Register Definition Description

Address	Description	Definition
50001	Operating mode	Operating mode of the device with no measurements available during startup. 0 : Startup; 1 : Measuring;
50002	Leak Alarm	Flag that turns on when the concentration exceeds the alarm threshold. By default, the leak signal is held for 5 minutes after the concentration falls below the leak signal threshold again. 0: No leak detected; 1: Leak actively detected or for a duration after leak detection.
50003	Error Code	Error code: 0 Internal error causing measurement data to be unavailable, e.g. internal communication error. 1 Values Out of Limits The sensor detects out-of-specification temperature, relative humidity, or gas concentration. 2 - - - - 3 Self-test failure internal check Error caused by incorrect operation, invalid settings, etc. 4 Sensor module failure cannot be recovered error requiring replacement of the sensor module. 5 Exceeded life limit warning The sensor has reached the life limit. 6 Approaching life limit warning The sensor has reached the life warning threshold.
50004	Gas Concentration LFL	Last measured gas concentration in %LFL multiplied by 10 (e.g. 251 means 25.1% LFL). Resolution: 0.1% LFL; Range: 0-100% LFL.
50005	Sensor Module Temperature	Last measured temperature in °C multiplied by 10 (e.g.: 210 for 21.0°C). (e.g., 210 means 21.0°C). Resolution: 0.1°C; Range: -40 to 85°C.
50006	Sensor Module Humidity	Last measured humidity in %RH multiplied by 10 (e.g., 305 for 30.5% RH). (Example: 305 for 30.5% RH). Resolution: 0.1%RH; Range: 0-100%RH.
50007	Firmware Version	Firmware version.
50008	Lifetime Counter (day)	The lifetime of the device in days. Resolution: 1 day; Range: 0-65535 days. This value is updated every 24 hours.
50009	Lifetime Counter (hour)	Range: 0-23 hours. This value is updated every 1 hour.

Appendix B: Description of R/W Register

Address	Description	Definition
50052	Device Address	Slave address for Modbus interface Range: 1-247; Default value: 1. A soft reset or power reboot is required to apply changes to this value.
50053	Leak Signal Trigger Threshold	The gas concentration level at which a leak signal is triggered. Resolution: 0.1% LFL (e.g., 251 means 25.1% LFL)
50054	Lifetime Warning Signal Trigger Threshold	Lifetime Warning Signal Trigger Threshold The lifetime count value in days that triggers the lifetime warning signal. Resolution: 1 day; Range: 0-65535 days.
50055	Lifetime Alarm Signal Trigger Threshold	Lifetime Alarm Signal Trigger Threshold The lifetime count value in days that triggers the lifetime alarm signal. Resolution: 1 day; Range: 0-65535 days.