

WARNINGS

To use the optional “Rugged Connect” software, a USB driver must be installed. The easiest way to do this is to insure you are connected to the Internet the first time you connect the L201 to your PC; normally, the required driver will be automatically downloaded and installed.

Introduction

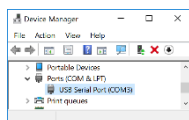
This short form guide deals with the basic operation of your new L201™ instrument. Here, you will find information about preparing the unit and doing initial measurements. The detailed reference instructions are given in the L201 User Guide, document # MAN0001Rxx; to get a copy, visit this website <https://www.ruggedmonitoring.com/downloads>; you will need to request a user password.

To initially connect to your new L201, you will need the following items:

- A USB cable (included with the unit) and a USB charger
- A microSD card, to allow logging in the L201 instrument
- To read logs, a microSD card reader is required. Files can also be downloaded to a PC using Rugged Connect
- If you want to use the optional **Rugged Connect** software, you will need a PC computer (Windows-10 is recommended; minimum is Windows-7)
- An Internet connection (first time only).

Your new L201 comes calibrated and ready to use. Connect it to a suitable USB supply, or to a USB port on your PC. To use the “Rugged Connect” software, the installation of a FTDI serial driver is required; normally, Windows will install this driver with no intervention from your part; once this installation is done, you will get a short message confirming its successful installation (“FT230X Basic UART is set up and ready to go”). If you have trouble with this driver, follow these recommendations:

Start the Device Manager Windows app, and select the “Ports” section, as follows:



Right click on the “USB Serial Port” entry select “Update driver”. In the next window, select “Search automatically for updated driver software”. In most cases, this will solve your driver problem.

If this driver download procedure does not work, you should download the driver from this site (<https://www.ftdichip.com/Drivers/VCP.htm>), and install it by double-clicking it.

If you are going to use the analog output module, make sure it is connected to the L201 before you turn on the L201.

You can now make your first measurements with your new L201 instrument.

Making your first measurements

Immediately after a power-on (by connecting the USB cable, or with the on/off switch), you will get a 5-second splash screen with some instrument information. Then, temperatures will be displayed, at a refresh rate of about 1 to 2 seconds (---.-- will be displayed if no probe is found for a given channel). A blank reading indicates that this channel is disabled; see next section for information on how to enable a channel.

Warning: When using probes, make sure their ST connector are clean; use alcohol to clean if required.

Warning: Always keep caps on probe ST connectors and on instrument ST connectors, when not used.

If you want to explore more options, you can:

- Use the Rugged Connect software; see next section
- Explore more menu items on the L201. You can click through 4 screens using the Menu button to show the next screen.

L201 menu screens

Temperature screen

This is main default screen, where up to 8 temperature values are displayed.

Probe power screen

Here you get an idea about the “health” or power of your probes. Normally, a probe connected directly to the L201 should have a power of 100%; if you have extension cables or feedthroughs, the power level will go down. If your connectors are dirty, power will also go down. So this information is useful to insure that your complete fiber links are good and clean.

Enable / Disable screen

This screen allows to disable or enable specific channels. To toggle a channel, click the OK button until the desired channel is selected (blinking >); then use the arrow keys to make your selection, and click again the OK button to save your selection.

SETUP screen

Here, you can set the following parameters:

- Time and Date.
- Logging status (Enable/Disable, rate).
- AGC (auto gain). Should be OFF when fast measurements are required; otherwise, it is suggested to leave it ON, for maximum sensitivity.
- HOLD reading. This could be useful for weak-signal probes, by holding last good readings during “x” reading cycles before displaying no temperature.

Temperature logging on a microSD card

First, you must insert a formatted (FAT32 is required) microSD card into the card slot (right side of the L201). The logging rate and enabling of logging must be done from the Setup screen (see

above). To start the logging process, simply press the Log (OK) button on the instrument panel; logging is confirmed by the blue led.

To read your logs, you must stop the logging process, remove the card and insert it in an appropriate adapter to read it using a USB port on your PC. Use your Excel app to see your logged data. Files can also be downloaded using the Rugged Connect software.

File format is fixed as follows: yymmdd_hhmmss.csv, with tab delimitation.

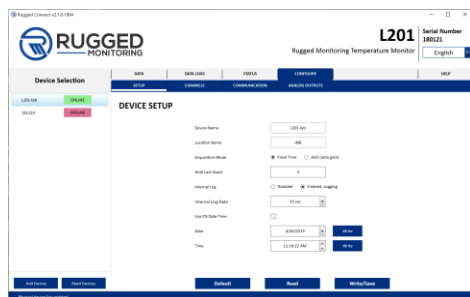
Using the optional Rugged Connect software

Rugged Connect (RC) can be used to perform these functions:

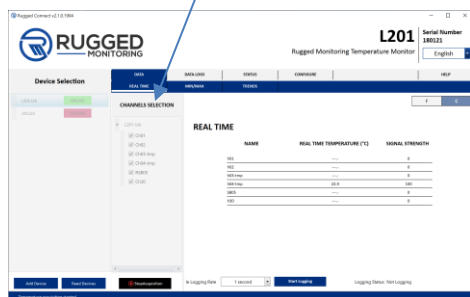
- Manage channels (enable/disable, channel names, offset, etc.)
- Manage Analog outputs (if this option is present)
- Serial port parameters (Modbus, etc.)
- Logging temperatures to a PC file (.csv)
- Graphing (trending) temperatures
- Import/Export of instrument configurations
- Support for up to 6 instruments (each one requires its own USB port). Information: You can log data from many instruments to a single Excel file
- Instrument configuration can be worked on, even if it is not connected in real-time (offline device).

To get a copy, visit this website <https://www.ruggedmonitoring.com/downloads>; you will need to request a user password. Install it on your PC. Make sure you are using version 2 of Rugged Connect.

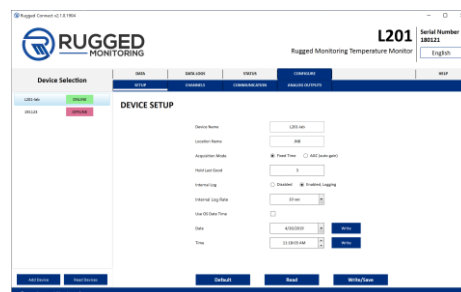
When you start **Rugged Connect**, the USB ports are scanned to find any connected instruments, a list is given in the left pane, as shown here (here, as an example, only one 6-channel instrument is found):



From here, you can see data, or you can configure your instrument. To see data, click on the DATA tab, and a table with temperature will appear; you can also see graphics by clicking the TRENDS tab.

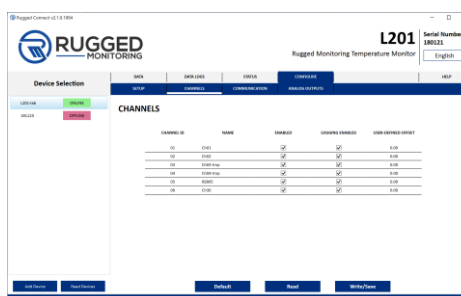


To configure your instrument, click on CONFIGURE and then on SETUP; this window will appear:



Here you can set AGC on or off (should be on, unless you want speed), enable internal logging, etc.

By selecting the CHANNELS tab, you can configure your channels, by giving them names, enabling them for logging or forcing an offset:



Additionally, you can experiment with other panes, such as analog output parameters, log file download, communication protocols, etc.

To save your new parameters, remember to click on the "Write / Save" button found at the bottom of each Configuration window.

Information regarding analog outputs.

Analog outputs are available as an option.

If you are going to use the optional analog output plugin, you will need to use **Rugged Connect** to configure it. You can select 0-5V, 0-10V, 4-20mA or 0-20mA. In addition, you can assign any of the 8 analog outputs to any of the temperature sensor channel; you can also assign an analog output to multiple sensor channels, to output the minimum or maximum temperature found on these channels, and so forth. **Warning:** Analog outputs are *not* ground-isolated from the L201 ground; ground loops can affect your results!!

You can experiment with the various windows and panes, to discover more useful features.

This terminates this short form guide. For more details, you are encouraged to consult the L201 user guide, part number MAN0001Rxx. Enjoy your new L201!

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