SL Series Programmer Release Notes

This file : Release_SL300-26051**.pdf**

The SL series programmer also supports modules are only programmed in house or are an OEM product that is not advertised. This document only covers products that have recently changed. As a result you may not find your product mentioned in the release notes.

APCS does not directly email EXE files.

- This document may be sent to you personally from APCS staff for a specific problem. In general a new releases will replace all previous releases.
- The release document may include a link to download an install program that is hidden on our web site but required for your fix.
- The user guide and the official install for SL300 is at https://www.apcs.net.au/sl/sl300userguide.html.
- If you are having problems connecting the the SL300 USB stick or programming an APCS SL series module refer to the serial port driver problems section

Table of Contents

SL Series Programmer Release Notes....1
Release 26051 Allow 10% extra on Output Settings....2
Release 25051. Add Input Calibration on PWM157v2....2
Release 24123. General Operation Problem....2
Release 24122. Repair problem SL340....2
Release 24071. Add support for the PWM157 Version 2....3
Release 24023. ACM116. Correct Overwrite of Calibration flag....3
Serial Port Driver Problems....4
Communication Problems – Connector Setting....5
Communication Problems – Serial Port Driver....6
Communication Problems – Update Driver....7

Release 26051 Allow 10% extra on Output Settings

Previously it was only possible to set the output full scale 5% higher than the selected scale.

The output full scale and upper signal signal limit can now be set up to 10% higher than the maximum value of the selected scale. This allows the user to control the maximum output when the input is overloaded.

Signal Limits: The HIGH and LOW limits can be set over the entire output signal range. For example:

Input: 0 – 100%

Output: 0 – 10V, Low

Limit: 2V. High Limit: 8V

The input signal will follow in the range of 20% to 80%. Any input below 20% will result in 2V out, any input above 80% will result in 8V out.

Allowing the signal limit to be set up to 110% of the range allows the limit on the output to be up to 11V (for a 0-10V range) which may occur when the input is above full scale. The output may not be able to achieve 10% over on all ranges. You can test your application or contact APCS regarding your requirements

Release 25051. Add Input Calibration on PWM157v2

Existing procedures only support "Standard Up/Down Ramp". PWM157 is factory configured however the micro USB socket is accessible inside the case, the SL300 program can change the PWM parameters plus scale offsets on the analogue input. There are minor hardware changes between the input ranges specified on the data sheet. This function is now included in the standard release.

Release 24123. General Operation Problem

Correct user guide and on screen SL340 function "**Minor Input Calibration Trim**" calibration function.

Added instructions for standard function available on most SL series "**Calibrate Input in Engineering Units**".

Both these functions have a similar operating application out, as the SL340 has both functions available both have been documented to avoid confusion.

Release 24122. Repair problem SL340

SL340 problems introduced with version 202412 r6. Some of the problems may have been present earlier. If the operator fills in the SL340 client area and programs an SL340 it will work as specified, however if the program is read back from the SL340 the following functions will be reversed:

Response, Burn Out, Output Limits, Action, Auxiliary Current/Voltage.

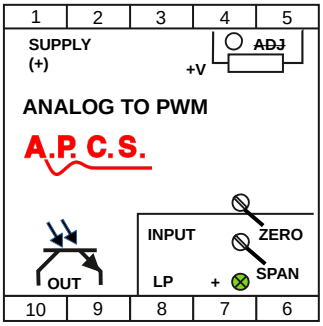
This problem will give a false indication of what was programmed and working in the connected module.

Release 24071. Add support for the PWM157 Version 2

The PWM157 is an Analog To PWM converter. The program is only required when using "Option 1 Output transistor upgrade 1.5A/24V". All other options use a different base board.

Modules with the 1.5A output transistor have a different front layout. The output level 4 is internally set when the module is ordered. The output LED is situated above terminal 7. The span and zero controls offset from their labels. All connections are the same as the standard model.

The SL300 is used to set the PWM frequency and the PWM limits.



Release 24023. ACM116. Correct Overwrite of Calibration flag.

ACM116, AC-CURRENT MONITOR and corrects an overwrite of the calibration flag when programming after reading a disk file.

Installer : SetupSL300-24023.exe (2024, Feb, third run)

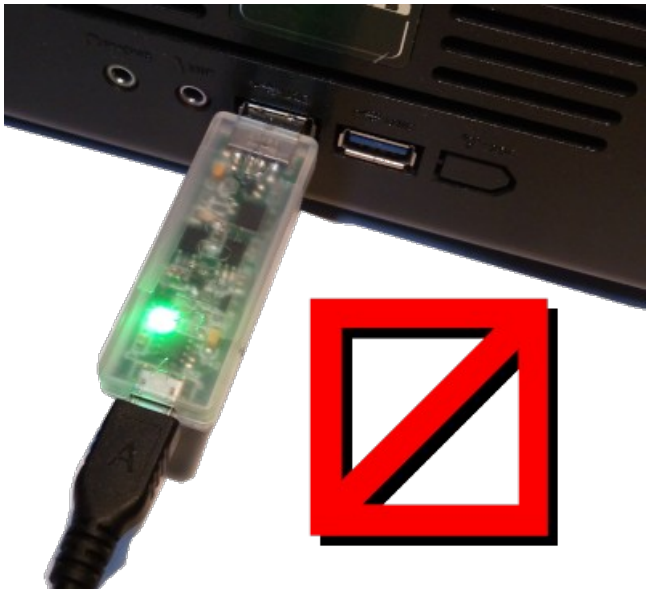
Serial Port Driver Problems

APCS no longer supplies the driver for the "CP101 USB to UART Bridge Controller" which is an integrated circuit that we use in the SL300. The driver is supplied by windows update. If you cannot connect to one of our signal conditioning modules or the connection keeps dropping out then the driver need updating.

Before trying to update the driver please check the "Connector Settings" on the next page.

All standard windows security updates need to be previously applied before windows will start to look for updated hardware drivers.

Yes the SL303 pictured to the right is a USB to serial converter, however it does more than just convert to serial.



There is 1kv galvanic isolation between the computer and the SL series module, this is there to ensure a computer can always monitor traffic while a plant is in operation no matter how you connect the inputs to the module.

Communication Problems – Connector Setting

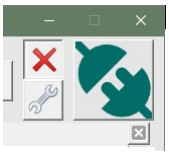
You may find that you can read the SL series module settings or part of the settings and still not be able to program an SL series with out the connection dropping out.

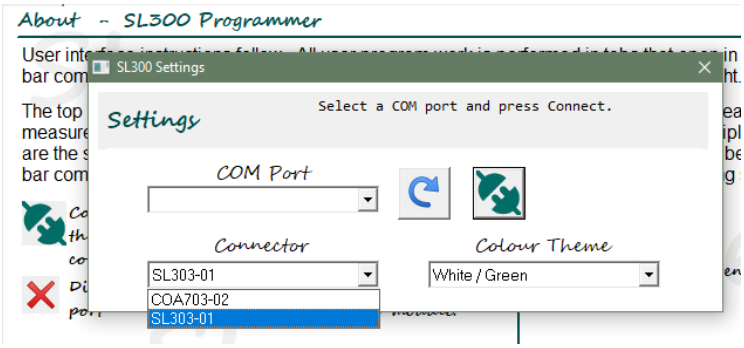
APCS has two different serial port connectors that can be used with the SL300 Programmer

1. SL Series USB Isolator, Part Number: SL303-01
2. USC Computer Adaptor, Part Number: COA703-02

Most users will need select SL303-01 from the connector drop-down.

Click the spanner icon on the top right of the SL300 programming screen.

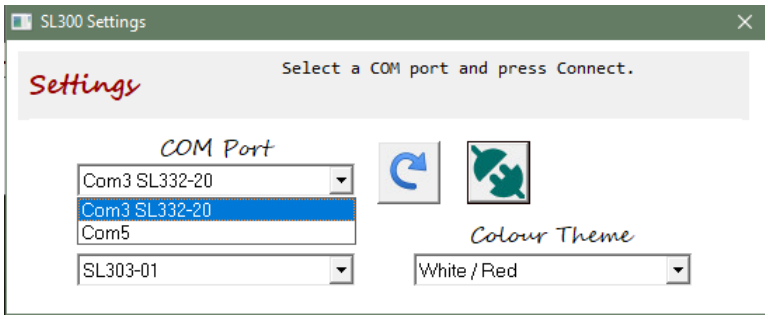




On the SL300 Settings select SL030-01 from the Connector drop-down box.

You will notice that there are no listed in the COM Ports drop-down.

While on the settings screen the SL300 program will look for all ports on the system. My list is empty as there are no serial ports on my PC and I do not have a SL303-01 plugged into a USB port.



Here is another system with two COM ports that are listed in the drop-down.

COM5 is not connected to a powered SL series module.

COM is connected to a powered SL332-20 (signal isolator.

If I were to connect another powered module to COM5 and press refresh it will appear on the drop-down as well.

When you plug in any number of SL303-01 sticks into USB ports on your PC windows hardware detection should find the new hardware and assign a serial port for each.

- Each serial port will be listed on the SL200 settings screen
- If there is no powered APCS module connected to the SL303-01 stick then the COM port is listed without a module name.

If windows is not detecting the hardware then continue to next section.

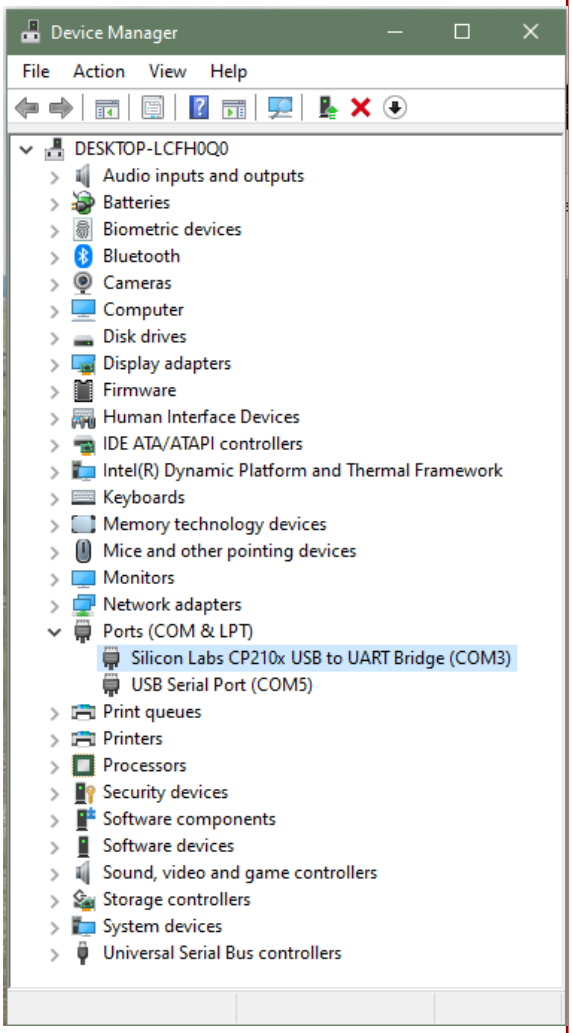
Communication Problems – Serial Port Driver

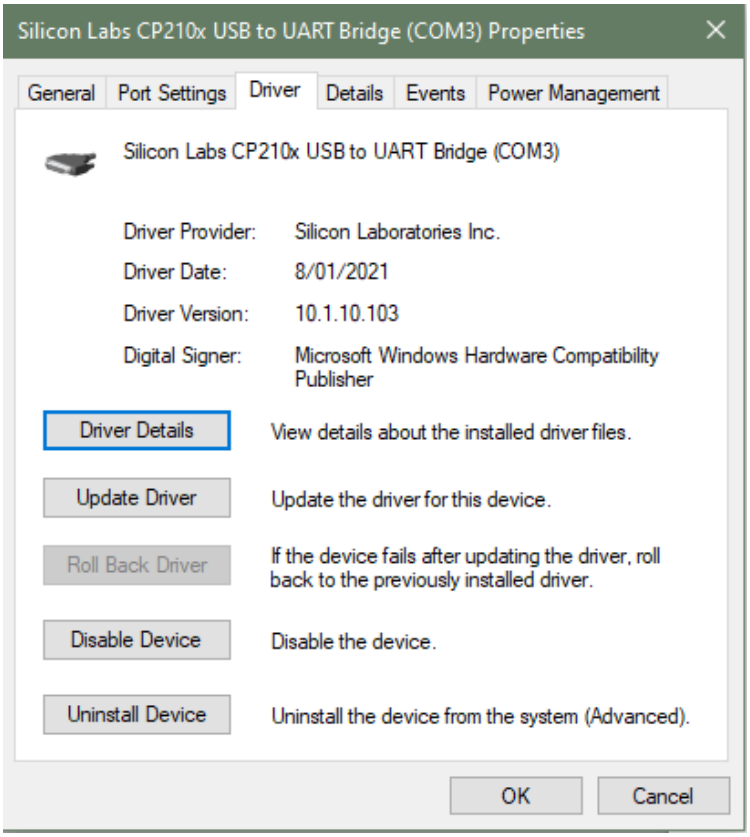
This section shows a typical driver insulation for the SL303-10 USB to Serial Isolator.

The screenshot shows the windows device manager with the "**Silicon Labs CP210x USB to UART Bridge"** selected.

I cannot supply the latest driver as the driver is now part of "Microsoft Windows Hardware Compatibility Publisher"

Right clicking on the highlighted branch and selecting properties will display driver information.





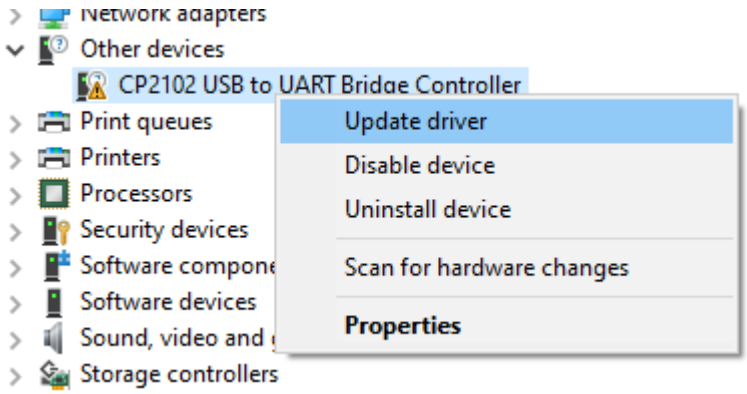
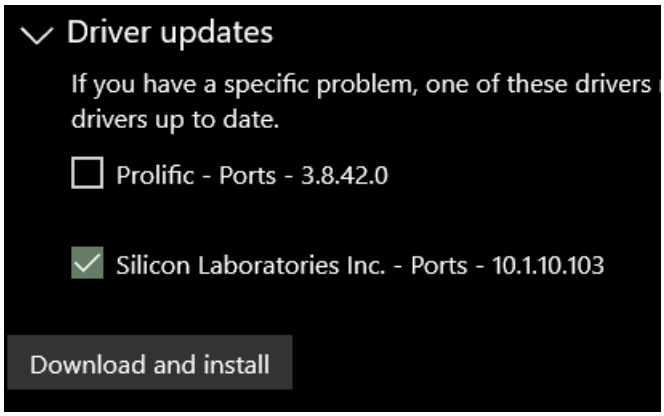
If your system shows a problem in the Device Manager then;

1. Unplug the SL303-01 from the USB port.
2. Ensure all windows updates have been run.
3. After all windows updates have run and the system has restarted run windows update again to make sure.
4. After windows has restarted wait a few minutes as it will still be doing some background tasks.
5. Plug in the SL303-01 and wait a few minutes for the hardware detection
6. If your system shows a problem in the Device Manager the best way to correct is to delete the driver from the device and look in windows update (see next section).

Communication Problems – Update Driver

All standard security updates need to be previously applied before windows will start to look for drivers for the hardware.

1. Shutdown SL300 programmer
2. Go to device manager, right click on the device and "Uninstall device" and delete the driver.
3. Close device manager
4. Unplug the SL301-01
5. Plug in SL301-01
6. Go to device manager and scan for hardware changes.



7. Right click on CP101 USB to UART Bridge Controller
8. Click on Update driver
9. Click search automatically
10. Click on Search for updated drivers on Windows Update
11. Run Check For Updates
12. Install updates if necessary.
13. Click View Optional updates.
14. Click Driver updates.
15. Select Silicon Laboratories Inc. - Ports – 10.1.10.103. and click "Download and install"
16. Device manager will update.
17. SL300 programmer should work as long as the correct connector is selected.