



PPEB280 Plug-on Board

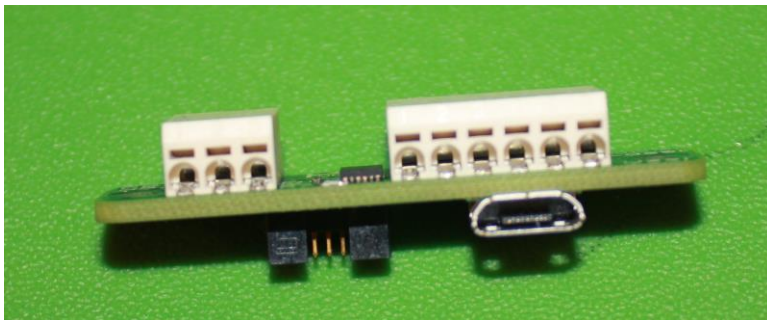
Clean Light portfolio – PPEB280 – Application Note

The PPEB280 plug-on board is a convenient interface solution to the PPCL100 and PPCL200 product families. It provides a receptacle for a micro-USB connector that makes the connection to a computer much more convenient than the existing low-voltage RS-232 connection and it routes the pins of the SAMTEC connector, which is small and not easy to get, to two terminal blocks. The user only needs to push-in a wire to connect the power supplies and/or the hardware lines.

PPEB280

The PPEB280 is a small PCB that fits onto a standard PPCL100 or PPCL200 ITLA. In the below image, the product is shown with the 14-pin Samtec connector that plugs onto the ITLA, the micro-USB receptacle to the right, the terminal block for the power supplies to the left and the terminal block for the hardware lines on the right.

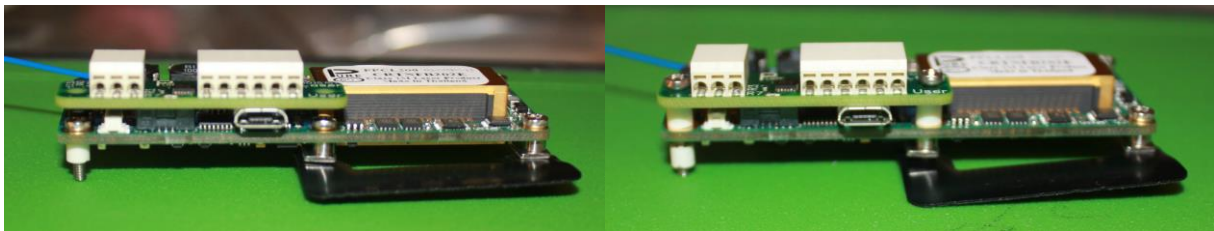
The product comes with 2 white stand-offs and 2 screws for long-term installation on the ITLA.



Installation

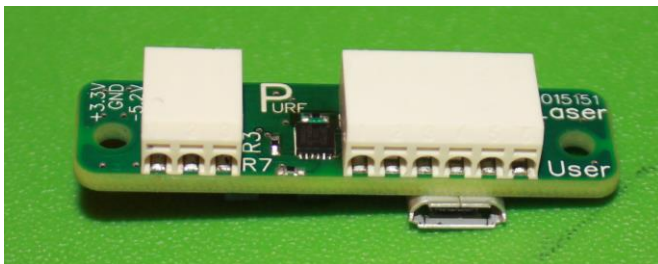
The PPEB280 can be installed for short term use by pushing the male Samtec connector of the PPEB280 onto the female Samtec connector on the ITLA. It can alternatively be installed for long term use, by removing two screws on the ITLA and replacing them by longer screws. The spacer should be installed between the ITLA board and the PPEB280 board. To unscrew the screw on the left, hold the white retained spacer. To remove the screw on the right, just pull it out. Note that below the ITLA board, the right screw holds in place a metal ring. Please take extreme care not to move this ring. Re-installation is very difficult.

The two images below show short and long term installation.



Layout

The left terminal block has 3 contacts. This terminal block is for providing the power supplies to the unit. From left to right the voltages are +3.3V, GND and -5.2V.

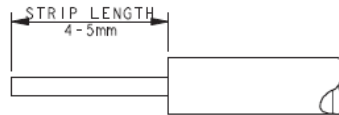


The right terminal block has 6 contacts (of which 5 are used). This terminal block is for the hardware lines of the ITLA. From left to right these lines are TxTrace, Reset, MS, SRQ, LDIS, GND. The definition and use of these lines is defined in the OIF Multi-Source Agreement for the ITLA (<http://www.oiforum.com/wp-content/uploads/OIF-ITLA-MSA-01.3.pdf>).

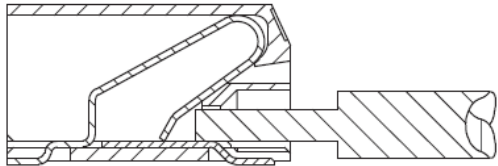
The micro-USB receptacle is standard and will take a micro-USB connector.

Terminal blocks

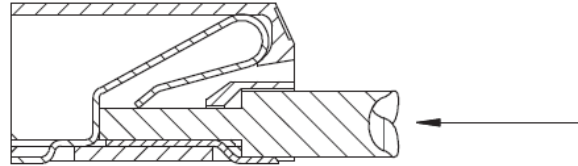
The terminal blocks takes wire of AWG 18-24. The below illustration shows how to enter the wires:



TRIM INSULATION.
DO NOT CRUSH CENTER OF WIRE.
STRANDED WIRES TWISTED TOGETHER BEFORE INSETION.
CHECK ALL STANDS OF WIRE ARE CORRECTLY ALIGNED
ATER THE INSULATION IS REMOVED.



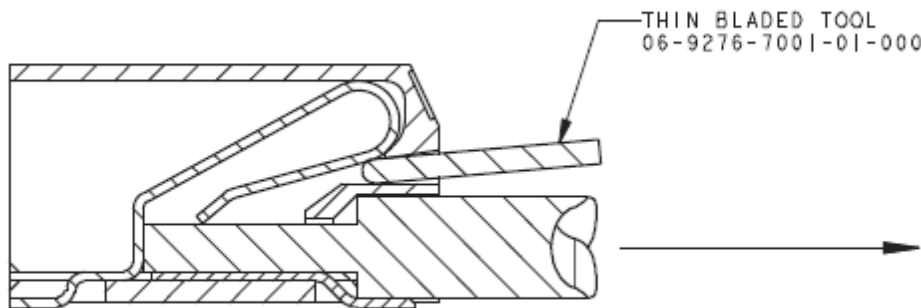
PUSH WIRE INTO HOLE IN FRONT OF CONNECTOR
DO NOT BEND CONNECTOR



CONTINUED TO PUSH WIRE UNTIL STOP IS REACHED.

The wire can be removed by pushing a sharp pin (e.g. a tweezer) into the top hole and then by gently pulling back the wire (see below).

WIRE EXTRACTION



PUSH BLADE (NOT SHARP) INTO SLOT ABOVE WIRE.
WHEN WIRE IS FREE, PULL TO EXTRACT.

Micro-USB interface Installation

The standard USB interface is not optimized for serial communications on the RS-232 interface. Due to differences in protocol and optimization algorithms for the USB port, it installs with non-optimal settings. For most operations, this is not a problem, however for a firmware upgrade a proper configuration is required.

We recommend to make the below changes when the USB interface gets registered. On every computer this is only needed once for each USB interface/device.

- a. Open the 'Windows Control Manager'
- b. Open 'Hardware and Sound'
- c. Open 'Device Manager'
- d. Find the COM ports

- e. Right-click the USB serial port and select 'Properties'
- f. Select the tab 'Port Settings' and click the 'Advanced' button
- g. **Set the latency timer value to 1msec.**
 - a. You can also select the COM-port designation here (we recommend port # <10).
 - b. We recommend to set the 'USB transfer sizes' to the lowest possible setting (do this for both receive and transmit)
- h. Close the windows and start using the device

