



Address: Extins Technologies
Braksan 131
8939EG
Leeuwarden
t +31(0)645540316
e sales@ext-ins.com
www www.ext-ins.com

Mini spectrofotometer

Introduction interface board

The mini spectrometer is a small photo spectrometer with serial interface, developed by Ext-ins technologies. The sensor module can interface to a personal computer or other device quite easily. The sensor module board is very small, and suitable for portable use.

Technical description

Power conditioning is included, stabilizing the voltages needed for the Central Processing Unit and analog circuitry. The module is able to operate from voltages of 5 Volts, or 6-16 volts.

Communications run now through a serial (rs-232) line, but this can be altered to other protocols such as USB. Configuration data can be sent to the device, such as the integration time constant, calibration bytes or serial number requests and start-stopping the delivery of data. A simple USB-to-serial module can now directly interface to a personal computer, but Bluetooth is possible as well

The device will send its data as 288 samples containing the spectrum information. Working Matlab and Python programs are available and using a (freeware) terminal program, even MS-Excel or similar can be used to process spectrometer data.

Since this module is still under development some modifications are possible. As it is now, the module must be powered by a small adapter, and has a USB connection for use on a personal computer.

Short data: Spectral response:340-850nm, spectral resolution: 15nm , High sensitivity, suitable for fluorescence detection

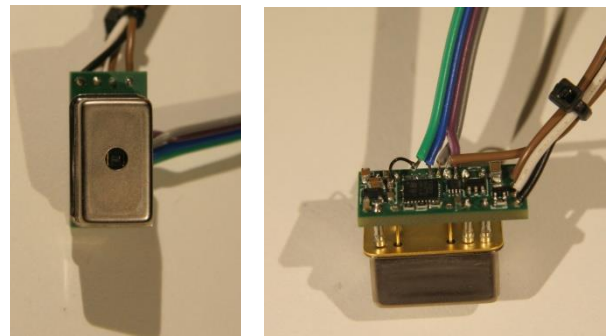


Figure: left: the interface board from the sensor side. Right: from the pcb-side.

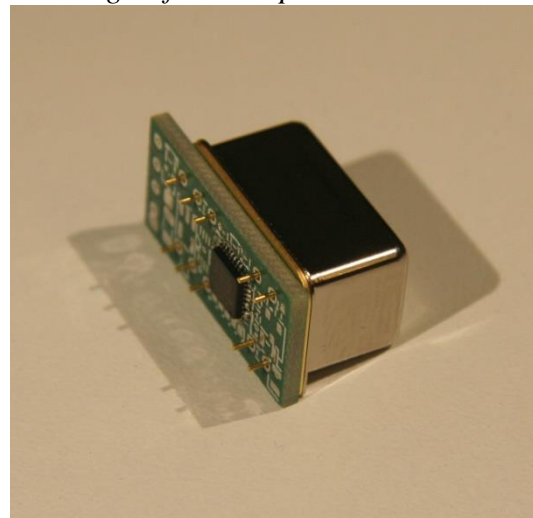


Figure: the interface board without stand-offs, giving an impression how it looks in a real application. Four wires are needed for connections, located on the far left in this figure.