py-opc: operate the Alphasense OPC-N2 from a raspberry pi or other popular microcontrollers/microcomputers

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Statement of Need

As shipped, the Alphasense OPC-N2 ships with a PC-ready GUI, but no acceptable drivers for using with popular microcontrollers. This library fixes that.

Summary

The py-opc and opcn2 libraries enable the simple operation of the Alphasense OPC-N2 optical particle counter (OPC) from either a Raspberry Pi/Beagle Bone (written in python) or Arduino/Arduino-like devices (written in c++). The python version requires either the py-spidev (GPIO pins) or pyusbiss (USB-SPI converter) libraries. Complete SPI control is given to the user via the API, allowing complete control over settings and operation of the OPC.

Mentions

- Crilley, L. R., Shaw, M., Pound, R., Kramer, L. J., Price, R., Young, S., Lewis, A. C., and Pope, F. D.: Evaluation of a low-cost optical particle counter (Alphasense OPC-N2) for ambient air monitoring, Atmos. Meas. Tech. Discuss., https://doi.org/10.5194/amt-2017-308, in review, 2017.

References