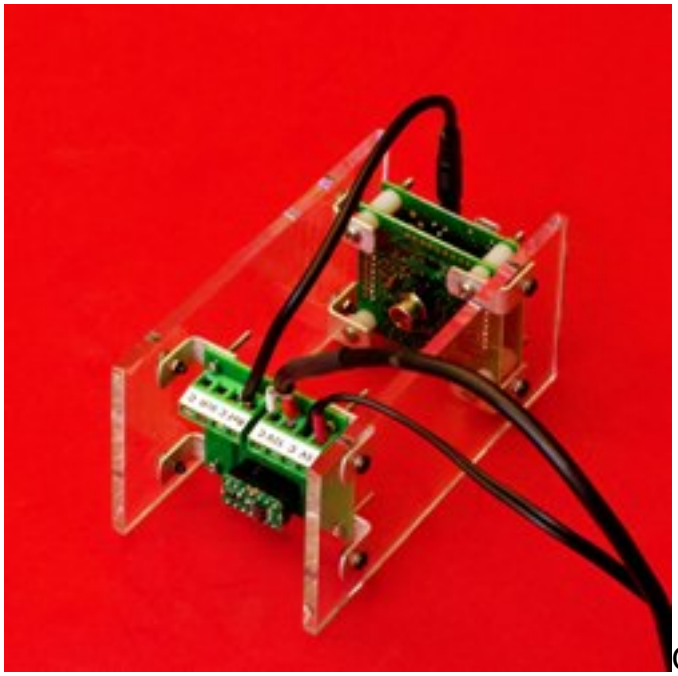
Plug-and-Play Sensor Prototype Kit



Cal Sensors announces the global launch of a new Sensor Prototype Kit, a plug-and-play tool deigned to dramatically accelerate prototyping, validation and product development for new gas measurement instruments. Supporting PbS and PbSe detector technologies, the Sensor Prototype Kit speeds time--to-market by allowing engineers to focus on the challenges of the system’s design by quickly validating detector viability.
The new Sensor Prototype Kit is well-suited for the development of a variety of medical gas analysis tools. The kit consists of two digital drive boards with integrated electronics, a one to four element detector, a PIREPlus emitter and developer´s software. Engineers have the option of buying the complete prototyping kit or a subset of the kit.

The Sensor Prototype Kit contains two digital drive boards with integrated electronics. Each board contains all the circuitry needed to drive the detector and emitter respectively and provides the analog to digital conversion necessary for computer control and analysis.

The Sensor Prototype Kit also contains a PbS or PbSe single-channel detector (SCD) or multi-channel detector (MCD). The Cal Sensors SCD and standard MCD provide market-leading sensitivity across the one to five micron range.

The MCD product family allows for the detection of up to four distinct materials/gases and provides exceptional channel isolation (>99.5%) and a compact TO-5 or TO-8 footprint with superior quality and reliability The four channel configuration offers significant opportunities for cost reduction and design simplification minimizing the need for multiple individual detectors and complex optics. System costs and footprints can be reduced up to 60% versus alternative single-detector designs.

Though highly customizable for different applications across the one to five micron infrared spectrum, the MCD is available in a standard four-channel configuration with four discrete optical bandpass filters. This configuration supports CO, CO2 , and hydro-carbon (such as methane) gas analysis. Customers also have the choice of specifying custom filters in their Sensor Prototype Kit to meet specific application requirements.

The standard emitter in the Sensor Prototype Kit is the PIREPlus high-output, high-pulse rate emitter. The PIREPlus can be pulsed as a source of blackbody radiation for near-to-far infrared applications at 180Hz with 50% modulation depth. With a pulsing speed 18 times faster than alternative technologies, the PIREPlus maximizes signal to noise performance, optimizing the measurement dynamic range and resolution for trace gases with very low parts per million. The solid state emitter offers high output (4x10-2 watts/cm2 at 1 inch from filament) and fast pulse rate without the added expense of having to build in optical choppers or mechanical modulators as is often done with incandescent bulb emitters and covers a much wider spectrum than high-pulsing IR LEDs which focus on only very narrow bandwidths.

The PIREPlus includes an industry standard 14 pin-dip IC package that optimizes output for the chosen pulse rate. The pulse rate is adjustable from 1Hz to 200Hz via variable voltage input to meet specific application requirements. A special feature of the drive electronics is the ability to provide peak pulse temperatures independent of the pulse frequency. This ensures the highest output for any application.

For applications that emit their own radiation (such as heat from fire and flame applications), the Sensor Prototype Kit can be provided without an emitter and its circuitry.

The Sensor Prototype Kit also comes with software that allows engineers to quickly confirm signal presence and relative strength. The data is provided in a raw format that can be easily integrated into other larger software platforms for more in-depth analysis.

Cal Sensors
707-303-3837; www.calsensors.com [1]

Source URL (retrieved on *04/19/2015 - 2:00pm*):
http://www.mdtmag.com/product-releases/2012/01/plug-and-play-sensor-prototype-kit?qt-recent_content=0

Links:
[1] http://www.calsensors.com/