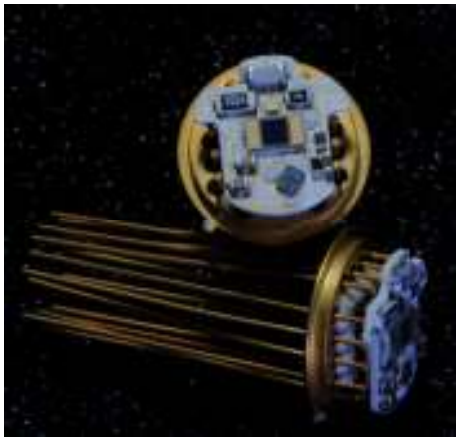
Preliminary

CalSensors
An ITW Company

IDA
Compact integrated infrared detector assembly

Key Features:

- High sensitivity detector with integrated electronics including:
  - Single stage TEC and thermistor for temperature control
  - Hermetic sealing for use in harsh environments
  - A choice of configurations
  - A compact TO-8 package
- Eliminates need for external interface boards
- Ideal for portable instruments where small size is critical
- Less susceptible to noise than external circuitry configurations



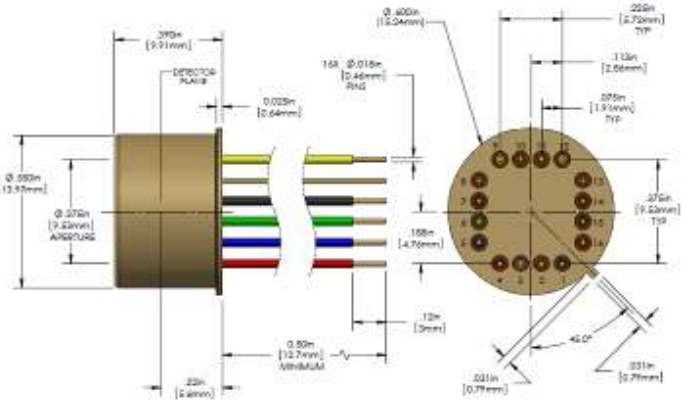
Standing out from other single-element detectors, IDA was designed to minimize size and simplify system implementation, without sacrificing performance. It promotes multiple arrangements, offering a choice of 1x1 mm or 2x2 mm detection schemes, PbS or PbSe materials and supporting single or bipolar bias supplies. In addition, designers can specify whether they want to configure it with a unity gain DC buffer or AC coupled 10 dB gain amplifier.

The compact size significantly reduces the footprint as compared to traditional detector schemes and provides a hermetically sealed assembly for harsh environments. IDA is ideal for manufacturers of portable equipment where size, durability and costs are so important.

The IDA design takes advantage of the shielded, high impedance detector node to minimize noise. With the integrated thermistor and thermoelectric cooler (TEC), IDA can manage temperature fluctuations reliably. These complementary features combine to optimize signal to noise ratio. Thus IDA is prepared to meet the challenges of today's and tomorrow's demanding applications.

Applications:

- Gas analysis, medical and industrial
- Emissions monitoring
- Spectroscopy
- Process control systems
- Thermal imaging
- Flame detection



Pin Descriptions

PIN NO.	FUNCTION	Function
1	TE COOLER (-)	Thermoelectric Cooler -
2	NC	
3	CASE	Case
4	TE COOLER (+)	Thermoelectric Cooler +
5	Vo	Output signal
6	GND	Output signal ground reference
7	Vb-	Negative bias voltage or ground
8	NC	
9	THERMISTOR	Thermistor
10	NC	
11	NC	
12	THERMISTOR	Thermistor
13	NC	
14	Vb +	Positive bias voltage
15	-Vcc	Opamp negative voltage
16	+Vcc	Opamp positive voltage

General Specifications[1]

Specification	Min	Typ	Max
Detector Size	1mm x 1mm		2mm x 2mm
Detector Load resistor		1MΩ	
Gain	1	10	
Input time constant		150mS	
Vb+ - Vb-			50V
Thermistor (25°C)		10KΩ	
Operating Temperature	-30°C		+65°C
Opamp supply voltage		±15V	±20V

1. Specifications i.e. directivity, dark resistance, time constant and rated temperature depend on the chosen material, See Cal Sensors standard specifications for single stage PbS or PbSe detectors for this information.