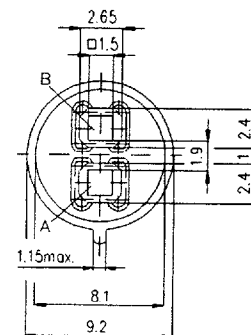
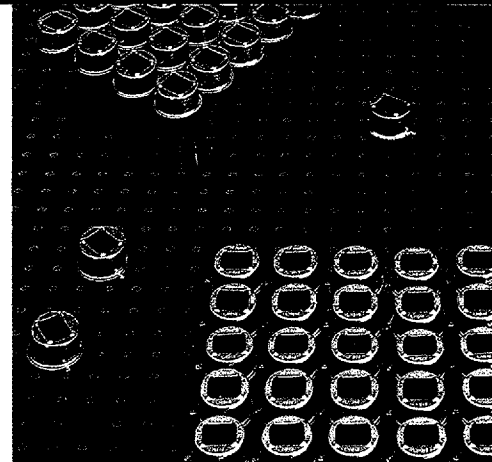


LHi 814

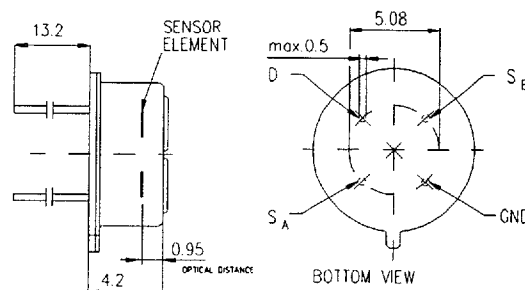
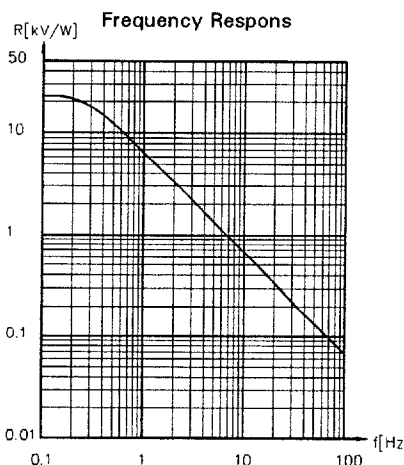
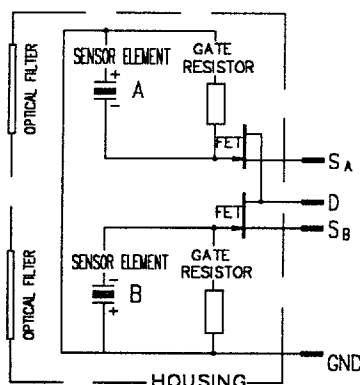
- Dual Channel Detectors in TO 5 Housing
- Two Different IR Filters built in
- Designed for Gas Monitoring

This special detector series consists of two single element detectors with rectangular sensing elements. Each channel is connected as FET source follower giving two separate outputs. The characteristic feature of this series is that each channel is equipped with its own special narrow band optical filter. The specific filter allows measurement or analysis of a selected range of gases based on their characteristic absorption lines in the infrared spectrum usually the 2nd channel is used as reference channel.



Parameter LHi 814

	min	typ	max	units	condition
Element Size		1,5 x 1,5		mm ²	
Spacing				mm	
Responsivity R	500	600		V/W	10 Hz
Noise		600	1200	nV/ $\sqrt{\text{Hz}}$	25°C, 10Hz, 1Hz
Offset Voltage	0,2		1,5	V	25°C, Rs = 47k Ω
NEP		9,4	24	10 ⁻¹⁰ W/ $\sqrt{\text{Hz}}$	10Hz, 1 Hz BW
D*	6	16		10 ⁷ cm $\sqrt{\text{Hz}}$ / W	10Hz, 1 Hz BW
Output Impedance		5	10	k Ω	Rs = 47 k Ω
Operating Voltage	2		15	V	
Drain - Source Voltage	0,5			V	
Unobstructed FOW					
Horizontal		51			
Vertical		62			
Operating Temperature	-40		70	°C	
Storage Temperature	-40		80	°C	



EG&G HEIMANN
Optoelectronics

The Heimann range of infrared detectors includes various types suitable for different applications. The individual types come with filters fit for their specific use. All dual element types are fitted with the standard window, which will allow transmissions between 5-14 μm . The single element series can be obtained with either broad band filters or very narrow band filters.

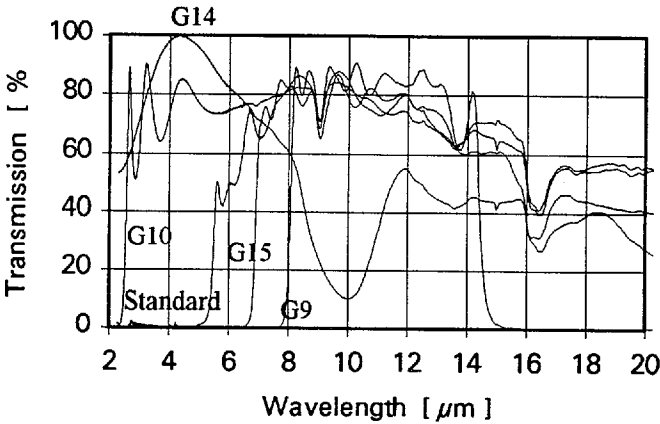
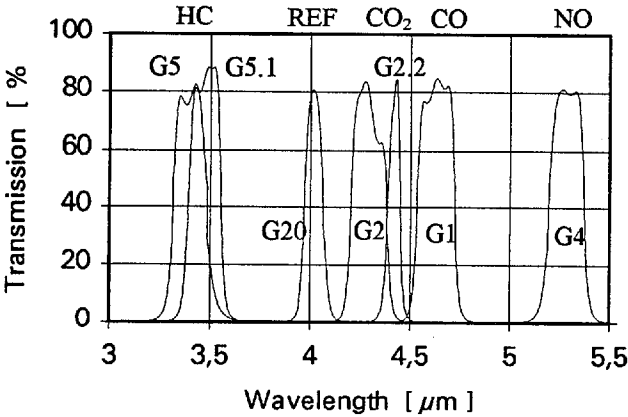
Available Narrow Band Filtertypes for

	Filter T1		Filter T2	
LHi 814	G2	/	G20	
LHi 814	G1	/	G20	
LHi 814	G4	/	G5	
LHi 814	G2	/	G20	
LHi 814	G1	/	G20	
LHi 814	G4	/	G5	

Type	Application	Centre Wave Length CWL (μm)	HPB (μm)	Rest Transmission in Blocking range below CWL above CWL	
G1	CO	4,64 ($\pm 1,0\%$)	0,18 ($\pm 0,02\%$)	0,1%	1,0%
G2	CO ₂	4,26 ($\pm 1,0\%$)	0,18 ($\pm 0,02\%$)	0,1%	1,0%
G2.2	CO ₂	4,43 ($\pm 1,0\%$)	0,06 ($\pm 0,005\%$)	0,1%	1,0%
G4	NO	5,30 ($\pm 1,0\%$)	0,18 ($\pm 0,02\%$)	0,1%	1,0%
G5	HC	3,40 ($\pm 2,0\%$)	0,18 ($\pm 0,02\%$)	0,1%	1,0%
G5.1	HC	3,46 ($\pm 1,5\%$)	0,163 ($\pm 0,01\%$)	0,1%	1,0%
G7	Freon	10,90 ($\pm 0,5\%$)	0,24 ($\pm 0,03\%$)	0,1%	1,0%
G20	Reference	4,00 ($\pm 2,0\%$)	0,09 ($\pm 0,02\%$)	0,1%	1,0%

Type	Transmission Range
Standard	5,5-14 μm
G9	8-14 μm
G10	3-13 μm
G12	1-16 μm
G14	3-5 μm
G15	6,5-14 μm

Coated Silicon
Coated Silicon
Coated Silicon
Coated Silicon
Coated Silicon



Narrow Band Filters

Narrow band filters are designed for the detection and measurement of atmospheric gases. Many gases show a specific absorption line in the mid to far infrared range. With a filter which allows the monitoring of this specific gas absorption, the measurement of gas concentration is possible. Filters G1 to G9 are variants, which can be built into LHI 808-TC. All these filters are made of coated silicon.

Broad Band Filters

A number of broad band filters are available for users who like to fit their own filter in front of the detector. Broad band filters can be made of either substrate filters, which use the materials transmission property or coated silicon..