

GasFinderFC is a portable laser based gas detector that incorporates a fibre-optic port to which a variety of different measurement heads can be connected. These heads can enable stack monitoring, short and long open path monitoring or local point measurements.

GasFinderFC is therefore a very flexible analyzer that can now bring the advantages of laser based gas detection to many new applications.



GasFinderFC

BENEFITS

- Gas specific – no interferences
- Fast response times – typically 1 second.
- Path lengths from 1 to 1000 m
- Portable – flexible configurations
- Robust, reliable, proven technology
- Self-calibrating—no calibration needed
- Easy set-up, alignment and use.
- No consumables and no maintenance
- Built-in data-logger and self diagnostics

Measurement Heads



1. Probe for portable stack & duct monitoring



2. Purged, stainless steel cross duct system



3. Transmitter head for long path work

A P P L I C A T I O N S	<p>Portable stack monitor Many industries are required to measure stack emissions of toxic gases periodically, but not continuously. Extractive, wet chemical methods currently used are slow, labor intensive and expensive. A single GasFinderFC can perform all a company's stack monitoring requirements for a specific gas, quickly, easily and accurately.</p> <p>Pipeline leak detector GasFinderFC can be configured with a customized probe and GPS system, and mounted in a vehicle or helicopter, to enable rapid, unambiguous detection and quantification of pipeline leaks.</p> <p>Vehicle emissions monitor GasFinderFC can be configured to monitor CO and CO2 simultaneously, and combined with the short open path probe, can be set up across roads to monitor instantaneous emissions of these gases from vehicles passing through the beam.</p> <p>Portable multi-function gas detector A single GasFinderFC combined with a complete set of measurement heads can enable a company to meet all their emissions monitoring needs for a single toxic gas, easily, reliably and cost effectively.</p>
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"Changing the way industry looks at gas sensing"

GasFinderFC

How GasFinderFC works

GasFinderFC (see schematic below) houses a laser diode, drive electronics, and micro-computer subsystems. Fibre-optic cable carries the laser light to a separate transmitter/receiver head, which directs the beam along a measurement path to a reflector. The return light is collected on a photo-detector housed in the transceiver head and the photo current is carried to the GasFinderFC via coaxial cable for analysis.

The transceiver can be mounted in one of several different measurement head configurations. A fixed length probe is used for temporary or permanent stack monitoring. A short path configuration is used for paths to 20m, including cross stack/duct and cross road measurements. A long path transmitter head can be used for open path monitoring to 1km. Other custom probes are used for vehicle/airborne monitoring and point monitoring.

A portion of the laser beam is passed through a stable built-in reference cell to provide a continuous calibration update. The measure and reference signals are then compared to determine the actual concentration of gas along the measure path. This value is displayed on the back panel of the instrument. Serial and analog signals are also available. The serial signal contains self diagnostic data. The GasFinderFC also has a built in data logger than can store up to 10,000 readings.

Operational Specifications

Sensitivity and Accuracy	See table below
Dynamic range	4 orders of magnitude
Response Time	1 second (default) Programmable
Path length	< 1m to > 1000m
Light source	Semiconductor diode laser
Eye Safety	Class I or Class IIIa (ANSI) FDA/CDRH approved
Data I/O Interface Options	RS232, 9600 baud 4-20 mA Current Loop
Hazardous Area Classification	Cl 1, Div 2, Groups A,B,C,D

Physical Specifications

<u>Analysis Unit</u>	Weight	5 kg
	Dimensions (W x D x H)	26 x 20 x 16 cm
	Power requirement	<2A @ 12 Vdc
	Ambient Temperature	-30° C to 50° C
<u>Open Path Transmitter</u>	Weight	4 kg
	Dimensions (L x dia)	35 x 10 cm
	Ambient Temperature	-45° C to +80° C
<u>Duct Transmitter Unit</u>	Weight	5 kg
	Dimensions (L x dia)	45 x 12 cm
	Ambient Temperature	-45° C to +80° C
	Stack Temperature	up to 300° C
<u>Stack/Duct Probe</u>	Weight	4 kg
	Dimensions (L x dia)	25 x 12 cm
	Ambient Temperature	-45° C to +80° C
	Stack Temperature	up to 300° C

F E A T U R E S

Patented features provide laser gas detector leadership in price, performance, and ease of use.

"No phase adjustment" detection technology: enables paths from 1m to 1000m without requiring any phase adjustments or calibration.

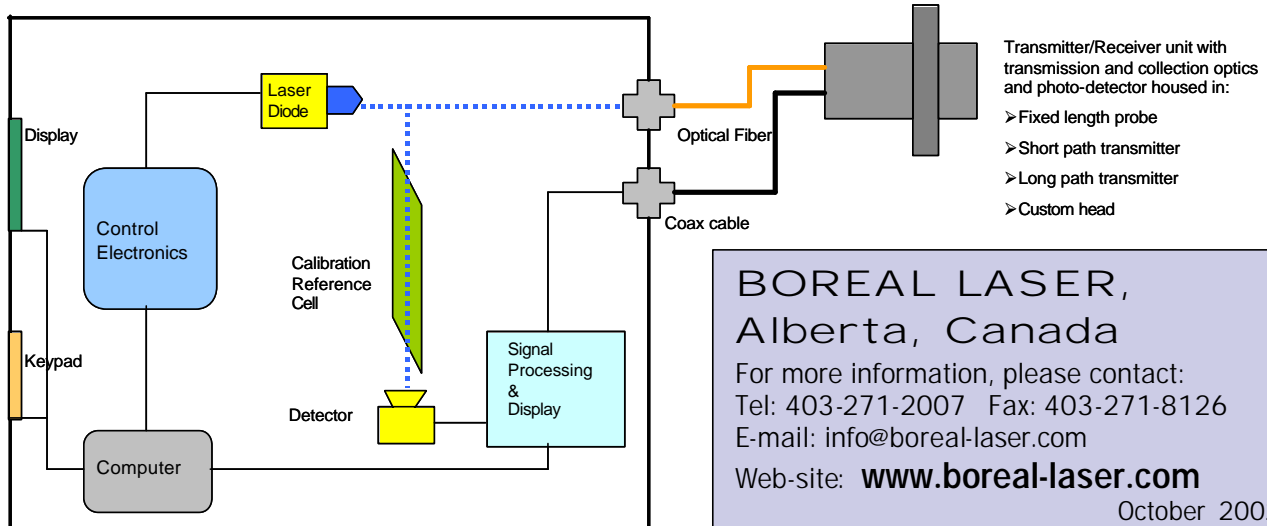
Built-in, permanent calibration reference cell: means GasFinders are delivered calibrated, stay in calibration and never need to be re-calibrated.

Ranges and Sensitivity

Gas	Range (ppm-m)	Sensitivity (1m probe)	Sensitivity (100m path)
HF	0 - 1000	0.1	1 ppb
NH3	0 - 5,000	1	0.01 ppm
H2S	0 - 100,000	20	0.2 ppm
CO2	0 - 5,000,000	1000	10 ppm
CO	0 - 5,000,000	1000	10 ppm
CH4	0 - 5,000	1	0.01 ppm
HCN	0 - 5,000	1	0.01 ppm
HCl	0 - 3000	0.3	3 ppb

Other gases on request

Schematic representation of GasFinderFC



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