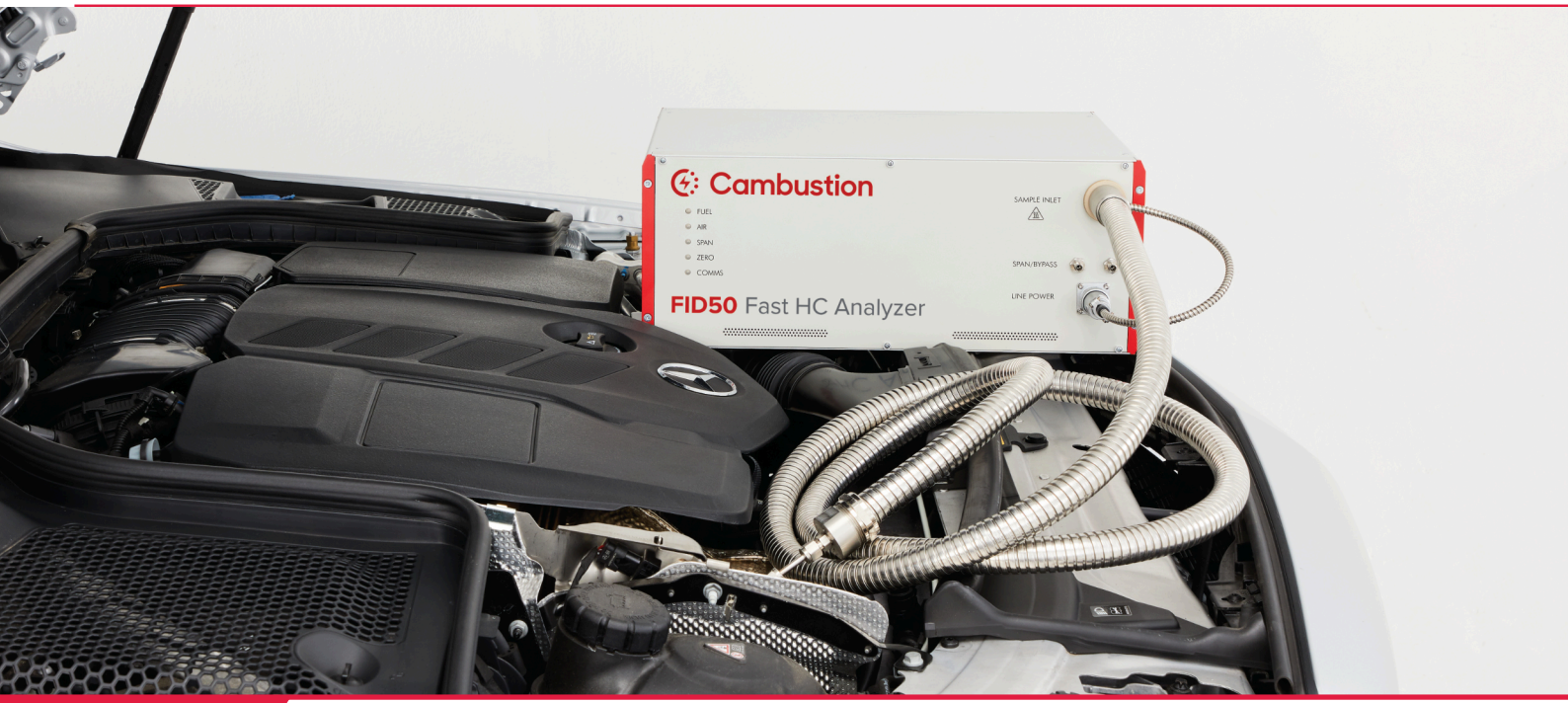
Cambustion

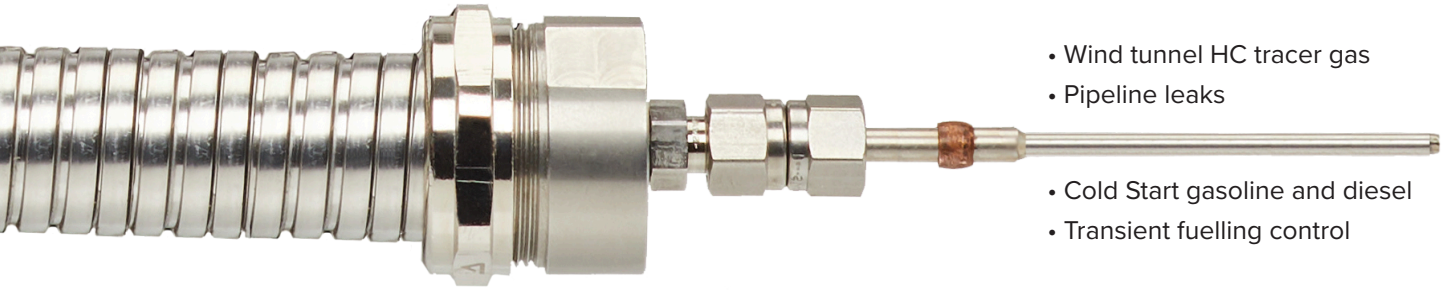
FID50



New! *Fast* Response [HC] Analyzer

- Engine exhaust sampling of cold start and transient catalyst performance
- Fast response industrial applications e.g. leak detection, process control

- Fast [HC] analyser
- Time response from **7ms $T_{10\text{-}90\%}$**
- H_2/He, H_2/N_2 or H_2 fuelling options
- Filtered 3m sample line as standard
- Concentration range: up to 150,000ppm C
- Portable / "PEMS" (16kg / 46×39×19cm)
- Built-in 10Hz data logger
- Data output: 100Hz and 10Hz analogue



- Wind tunnel HC tracer gas
- Pipeline leaks
- Cold Start gasoline and diesel
- Transient fuelling control

The new FID50 Fast FID is designed for both engine and non-engine applications where a 10 millisecond $T_{10\text{-}90\%}$ response time is sufficient.

The design differs from the other Cambustion fast gas analyzers in two significant ways:

- It is a single channel analyzer
- Its detector is housed within a small control box with a heated or unheated sample line delivering gas from the sample point

Typically, the sample line length is 3 metres and with the option of sample filtration where contaminated sample may deposit within the control box.

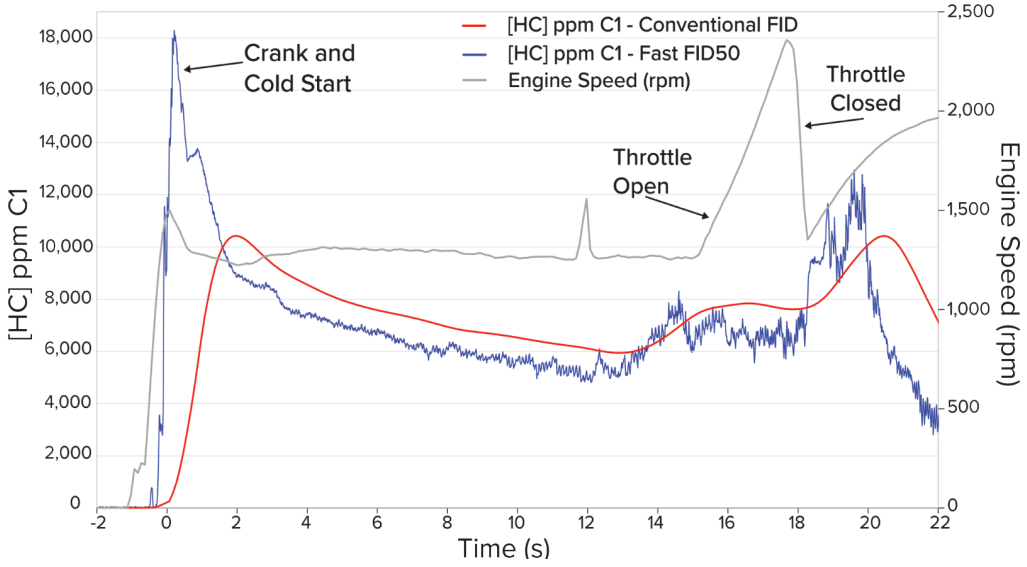
Like our other fast FIDs, the detection method is still using the trusted Fame Ionisation Detector principle.

Typical applications include pre- or post-catalyst engine exhaust THC measurement, transient catalyst performance, cold start engine calibration, rapid catalyst light-off studies and engine-out HC dosing for DPF regeneration.

The FID50 is a lower cost option compared with Cambustion's other fast FID product, (HFR500), which can be dual channel and capable of broader sampling conditions.

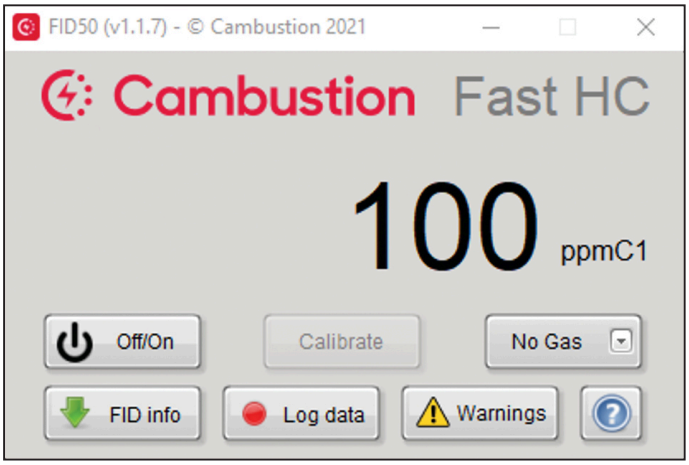
Contact Cambustion directly for application advice.

Comparison of FID50 vs Conventional Analyser - Cold Start Engine Data:
Engine-out THC from Modern GDI Gasoline Engine - WLTP



A new digital data platform

For ultra-fast applications requiring millisecond response or where the sample pressure is not close to atmospheric pressure (e.g. pre-turbocharger exhaust sampling), see our other fast FID product, the HFR500. In addition to automotive exhaust measurements, the FID50 can be used with a flexible unheated sample capillary for wind tunnel measurement of HC tracer gas, rapid leak detection from



HC-carrying pipelines and other process control applications where speed of response is a major advantage. Leak detection video:

https://youtu.be/7lsMTzA6WMQ

Specifications:

Measurement principle	Flame Ionisation Detection (FID)
Channels	One: 3m heated sample line as standard, 2m unheated sample line option
Time response	7ms (2m unheated line) 14ms (3m heated line, no filter) 19ms (3m heated line with filter)
Data rate	500 Hz & 10 Hz 10V analogue outputs
Sample pressure range	0.9 – 1.4 bar absolute
Sample flow extracted	3 lpm sample + 3 lpm bypass
Sample probe temp.	191 °C / 375 °F
Concentration ranges	8 ranges up to 150,000 ppm C (=50,000ppm C_3)
RMS zero noise	<1ppm C3
Dimensions (mm)	46 x 39 x 19mm
Weight	16kg
User interface	Labview via RS485 from lap-top
Gases required	40% H_2/He fuel (H_2/N_2 and pure H_2 options), HC span gas, N_2
Calibration gas flow rate	7 litres / min
Electrical supply	90–240 V 50/60 Hz 350 W max
All specifications subject to change without notice	

View general FID50 introduction video here: https://youtu.be/T3dFlpEUnmE

Cambustion (founded 1987) is an independent, privately owned company with headquarters in Cambridge, UK and customers in more than 35 countries worldwide.

Cambustion continue to research & develop novel instrumentation, and now also offer Measurement Consultancy; helping our global clients to solve a wide range of particle and gas measurement issues.

Cambustion

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