



SERVOPRO FID

The SERVOPRO FID is a Flame Ionization Detector based analyser designed to ensure safe operation within Cryogenic Air Separation plants by assuring the level of Total Hydrocarbons (THC) is maintained below inflammable limits as well as to provide quality control in pure O₂, N₂, Ar, He and Air.

FEATURES

- Reliable, stable Flame Ionization Detector
- Standard factory set 3 measuring ranges with over range
- Automatic range change for optimal output resolution
- Flame out alarm and fuel shut off valve
- Digital communications

APPLICATIONS

- Air separation
- Process control
- Product validation
- Safety

SERVOPRO FID

KEY FEATURES

Measures Total Hydrocarbons in a variety of background gases

THC measured in Air, Oxygen, Nitrogen, Argon, and He. For other background gases contact Servomex.

Fuel shut off valve

If detector flame is out, fuel feed valve shuts automatically for safety.

3 measurement ranges with automatic range change and over range

Standard ranges 0-10ppm, 0-100ppm, 0-1000ppm or 0-100ppm, 0-1000 and 0-10,000ppm (1%).

Digital communications

The SERVOPRO FID offers a broad range of digital communications - Ethernet and Digital Contacts for range indication, Continuous RS232 ASCII output (OPTIONAL).

ELECTRICAL SAFETY

Electrical safety to IEC 61010-1

The product is rated for Over Voltage Category II

The product is rated for Pollution Degree 2

EC DIRECTIVE COMPLIANCE

The SERVOPRO FID is compliant with:

A Low Voltage Directive

EMC Directive

And all other applicable Directives.

SAMPLE WETTED MATERIAL

Analyser Fitted with:

Brass	PTFE
Stainless Steel	Electroless Nickel Plating
Aluminium 6061-T6	12L14 Cold rolled steel
PEEK Ketron 1000	Nickel
Silicone rubber	Iron
Glass	

UTILITIES REQUIRED

BACKGROUND GAS	Ar, N ₂ , He and Air	O ₂ , Air, Ar and N ₂	O ₂
Fuel type	Hydrogen	60% N ₂ /40% H ₂	60% He/40% H ₂
Air flow & pressure	300-500ml/min & 15-30psig		
Fuel flow & pressure	65ml/min & 15-30psig	100ml/min & 15-30psig	
Power	100 to 120V ac or 220 to 240V ac 50/60Hz 150VA		
Zero gas	5N Grade Ar, N ₂ or Air (depending on sample background gas)	5N Grade O ₂ , Air, Ar or N ₂	5N Grade O ₂
Span gas	At least 80% fsd CH ₄ in sample background gas		

SERVOPRO

FID

SPECIFICATION

Gas type & background gas:	Total hydrocarbons (THC) in Ar, N ₂ , He and Air	Total hydrocarbons (THC) in O ₂ , Air, N ₂ , Ar	Total hydrocarbons (THC) in O ₂
Fuel type:	Hydrogen	60% N ₂ /40% H ₂	60% He/40% H ₂
PERFORMANCE			
Technology:	Flame Ionization Detector (FID)		
Operating range:	0-10ppm 0-100ppm 0-1000ppm		0-100ppm 0-1000ppm 0-10,000ppm
Smallest recommended output range:	0-10ppm		
Intrinsic error (accuracy):	<1% Range		
Repeatability:	≤0.5% Range		
Response time (T ₉₀) at sample flow rate:	<15 seconds at 100ml/min	<25 seconds at 30ml/min	
Zero drift/24 hours:	1% Range	2% Range	
Lower detection limit (LDL):	0.1ppm		
Noise:	1% of range		
Cross sensitivity (zero set on nitrogen):	No effects		
Flow range: Air: Fuel: Sample:	300 to 500ml/min* 40 to 100ml/min 30 to 100ml/min		
OUTPUTS/INPUTS			
Analogue output:	Isolated 4-20mA		
Analogue output range:	0-10ppm, 0-100ppm, 0-1000ppm or 0-100ppm, 0-1000ppm, 0-10,000ppm (1%)		
General fault alarm:	Volt free single pole relay (24V dc at 1A)		
Range change:	Volt free single pole relay (24V dc at 1A)		
Digital communications:	Ethernet (TCP)		
Concentration alarms:	2 volt free single pole relays (24V dc at 1A) for high alarm, high-high alarm		
OPTIONS			
Serial output:	Continuous ASCII on RS232		
SAMPLE GAS			
Temperature:	5°C to 40°C (41°F to 104°F)		
Dewpoint:	5°C (9°F) below minimum ambient		
Condition:	Oil free, non-corrosive, non-condensing, non-flammable		
Particulates:	Filtered to 10µm		
Vent:	Vent to atmosphere		
Sample pressure:	27 to 83kPag (5 to 15 Psig)		
AMBIENT CONDITIONS			
Temperature:	5°C to 40°C (41°F to 104°F)		
Relative humidity:	0 to 95% RH non-condensing		
Altitude:	2000m above sea level		
Gas connection:	1/8" compression fitting		

* At start up flow may need to be as low as 200ml/min

SERVOPRO FID

DESCRIPTION

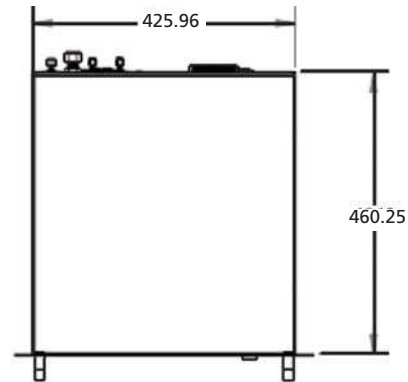
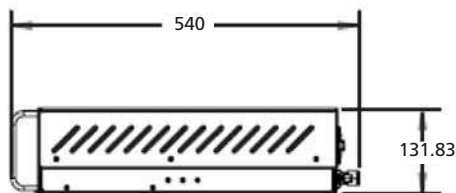
Power option:	There are 3 options for the power lead: 100-120V ac 220-240V ac
Analogue outputs:	Analyser supplied with a 4-20mA output with auto-ranging as standard
General fault alarms:	A general fault alarm indicates attention required
Digital outputs:	A range of digital outputs as standard - digital contacts for range indication and concentration alarms, Ethernet TCP and optional RS232 (continuous ASCII)
Mounting:	The SERVOPRO FID is designed to fit in a standard 3U 19" rack
User manual:	
Range:	Two options for range: Low 0-10ppm, 0-100ppm, 0-1000ppm High 0-100ppm, 0-1000ppm, 0-10,000ppm (1%)
Fuel:	
Sample gas (background):	

Options

- USA
- EU
- UK
- Analogue output
- Relay contact
- RS 232
- Rack Mounting
- English
- Low range
- High range
- Hydrogen
- Nitrifuel
- Helifuel
- O₂
- Air
- N₂
- Ar
- He

DIMENSIONS

Dimensions shown in millimetres



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