

Model 12-800 Flame Ionization Detector and Electrometers

Sensitive (1×10^{-12} g/sec HC)

Stable

Versatile

Direct continuous measurements

Corrosive or non-corrosive applications

The Flame Ionization Detector (FID) is one of the most important detectors used in gas chromatography. The detector is extremely sensitive to most organic compounds and relatively insensitive to temperature changes, minor flow changes, and materials such as water. This insensitivity to water enhances the detector's use in applications such as trace organic analysis in aqueous solutions.

The FID is stable with a high upper temperature limit and can be used with a variety of carrier gases in gas chromatography. Direct continuous measurements and total hydrocarbon applications can be performed easily using the GOW-MAC[®] Model 12-800 FID.



Model 12-800 FID with Model 40-900 Electrometer

GOW-MAC[®] has developed the 12-800 FID for high temperature applications. It has been proven in the field and is adaptable to a variety of laboratory requirements and applications.

Two electrometers are available for use with the Model 12-800 FID — the Model 40-900 FID Single Electrometer and the Model 40-950 FID Single Electrometer with Temperature Controller. An electrometer converts the flame ionization detector response to a signal compatible with potentiometric recorders, computing integrators or computer software.

Specifications of Model 12-800 FID

Linear Range:	1 x 10 ⁶	Recommended Flow:	
Sensitivity:	1 x 10 ⁻¹² g/sec HC	Fuel	
Electric Potential:	160 V	H ₂ /N ₂ or H ₂ /He(40/60%)	80 cc/min.
Max. Operating Temp:	300 °C	H ₂	18 cc/min.
Material of Construction:	St. St./Ceramic Insulation	Air	240 cc/min.
Tip:	St. St./Ceramic Insulated jet	Sample	20 - 30 cc/min.
Collector:	Cylinder of heavy gauge st. st.	Gas Connections:	
Ignitor: Glow plug		Fuel	1/16" o.d. tubing
Connectors:	Coaxial connector type BNC	Air	1/8" o.d. tubing
		Sample	1/4" o.d. tubing
		Weight:	Net: 5 lbs. Shipping: 7 lbs.

Specifications of Model 40-900 Electrometer

Circuit:	Solid state JFET operational amplifier powered by voltage regulated hybrid regulator circuit
Sensitivity:	1.5 x 10 ⁻¹² A, full scale 1 mV recorder
Dynamic Range:	1 x 10 ⁶
Noise:	with cable ± 3 μV at max. sensitivity
Drift: < 2 μV/hr	
Input Ranges:	10 ⁻⁹ , 10 ⁻¹⁰ , 10 ⁻¹¹ , 10 ⁻¹² A
Output Ranges:	Binary, 1 to 256 attenuation. Maximum output 13.65 VDC/input dependent
Polarizing Voltage:	Solid state power supply, 160 V dc
Weight:	Net: 14 lbs. (6.350 kg) Shipping: 19 lbs. (8.618 kg)
Physical Dimensions:	7 3/8" H x 11 7/8" W x 13 3/4" D (187.3 x 301.6 x 349.2 mm)
Power Requirements:	Model 40-900: 115 V, 60 Hz, 1000 Watts Model 40-902: 230 V, 50 Hz, 500 Watts

Specifications for Model 40-950 Electrometer with Temperature Control

Electrometer

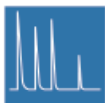
Circuit:	Solid state, JFET operational amplifier employing negative feedback. Powered by a regulated bipolar power supply.
Sensitivity:	1.5 x 10 ⁻¹² A, full scale 1 mV recorder
Dynamic Range:	1 x 10 ⁶
Noise:	< ±2 μV under controlled ambient conditions
Input Ranges:	10 ⁻⁹ , 10 ⁻¹⁰ , 10 ⁻¹¹ , 10 ⁻¹² A
Output Ranges:	Binary, 1 to 256 attenuation
Polarizing Voltage:	Solid state power supply, 160 V dc
Weight:	Net: 15 lbs. (6.75 kg) Shipping: 20 lbs. (9 kg)
Physical Dimensions:	7 3/8" H x 11 7/8" W x 13 3/4" D (187.3 x 301.6 x 349.2 mm)
Power Requirements:	Model 40-950: 115 volts, 50/60 Hz, 1000 watts Model 40-952: 240 volts, 50/60 Hz, 500 watts

Temperature Controller

Sensor Input Type:	RTD
Supply Voltage:	Model 40-950: 100 - 120 VAC, 50/60 Hz Model 40-952: 200 - 240 VAC, 50/60 Hz
Ambient Temp. Range:	Operating: 0 to 65 °C Storage: -40 to 85 °C

Ordering Information

115 V	230 V	
Series	Series	
12-800	12-800	Flame Ionization Detector
40-900	40-902	Electrometer, Single
40-950	40-952	Electrometer, Single with Temperature Controller



GOW-MAC
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Analytical instruments since 1935



ISO 9001:2008
PM 581002

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Printed in the U.S.A.