

# **TELEDYNE ANALYTICAL INSTRUMENTS**



## **MODEL 4030** **Total Hydrocarbon** **Analyzer**

**T**eledyne's Model 4030 is a microprocessor based, heated total hydrocarbon gas analyzer designed for high accuracy, sensitivity and stability. This instrument continuously measures a variety of hydrocarbon concentrations from one point.

The 4030 uses a flame ionization detector (FID). The FID, sample filter, sample lines, solenoid valves, pump head, capillaries and all other components in contact with the sample are maintained in a temperature controlled heated oven. This prevents condensation and provides repeatable, reliable performance in the analysis of a wide variety of concentrations of hydrocarbons in gaseous mixtures or ambient air.

### **Applications**

**Compliance monitoring** – U.S. E.P.A. Method 25A

**Process monitoring** – Continuous monitoring and alarm or control of process gas streams utilizing organic solvents, crude oil, and other chemicals containing hydrocarbons

**Efficiency monitoring** – Monitoring effluent of volatile organic compounds (VOC) reduction equipment for environmental compliance. Efficiency control of incinerators (thermal or catalytic), scrubbers, carbon adsorbers, and other abatement

equipment. Monitoring of catalytic converters, combustion and diesel engine efficiency.

**Safety monitoring** – Lower explosive limit (LEL) monitoring and / or control of ovens and dryers, fugitive emissions monitoring, personnel work area monitoring, leak detection of process equipment or solvent storage areas.

### **Features**

- Easy to use software
- Automatic ranging
- Automatic fuel shut off system
- Automatic flame-out indicator
- Adjustable alarm and oven settings
- Precision 1% of full scale
- Fast response
- Two stage sample filter with exchangeable stainless steel elements
- Teflon isolated detector (FID)
- 19" rack / bench mount
- Heated sample pump head
- Automatic ignition
- Choice of Hydrogen or Hydrogen / Helium fuel

### **Options**

- Automatic calibration
- Zero and calibration solenoids with software
- RS-232 interface
- Second concentration level alarm
- Internal combustion air supply
- Purge and internal cleaning system
- Dilution system
- User selectable fuel
- Range recognition relays
- Multi-point sequencer

**Built for Reliability and Performance**

# MODEL 4030 TOTAL HYDROCARBON ANALYZER

## Specifications

Measuring method: Oven heated, Flame Ionization Detector

Measurement range: Standard ranges (4 ranges per amplifier, one choice per analyzer) + Auto Range

- 0-10, 0-100, 0-1000, 0-10,000 ppm  
(lower detection limit 0.01 ppm)
- 0-100, 0-1000, 0-10,000, 0-100,000 ppm  
(lower detection limit 0.1 ppm)

Other ranges available upon request

Zero & span noise: Less than 0.2% of full scale

Zero & span drift:  $\pm 1\%$  full scale per 24 hours

Linearity: Within 1% of full scale through all ranges

Repeatability: Within 1% of full scale through all ranges

Stability: Within 1% of full scale through all ranges

Oxygen synergism: Within 1% of full scale within selected range

Response time: Within 5 seconds to 90% of final reading

Ambient temp: 50 to 120° F

Flow rate: 4 liters / minute (standard), others available

Physical dimensions: 19" front panel, 16.75" wide chassis, 18" deep chassis, 21" deep with fittings and handles, 9" high

Weight: 35 to 45 lbs depending on options

Oven operating temp: 300° F (adjustable 200 - 400° F)

Safety

- Flame-out indicator lamp, flame out alarm contact on back panel, fuel shut-off, calibration and zero solenoid shut-off

- Optional sample shut-off

Outputs

One of the following voltage outputs:

- 0-10 VDC (Standard)
- 0-1 VDC (Optional – no extra charge)
- 0-5 VDC (Optional – no extra charge)

Current output: • 4-20 mA • Sourcing

Flame-out alarm: Normally open, low current relay contact (closes on alarm, latching)

Concentration 1 alarm: Normally open, low current relay contact (closes on alarm, latching)

Ignition: Automatic (can be set to manual by operator from front panel)

Glow plug: Main and spare glow plugs installed (Selectable by switch on back panel)

Warm-up time: Useable in approximately 45 minutes; stable in approximately 3 hours

Display: Graphic, backlit, 240 W x 64 H pixels, high contrast, wide viewing angle

## Operation Requirements

Fuel:

- UHP Hydrogen @ 18 psi incoming pressure (standard)
- UPH Hydrogen / Helium Mixture @ 18 psi incoming pressure (optional)

Combustion air: Oil / Water / Hydrocarbon free instrument air @ 10 psi incoming pressure

Zero calibration gas: Zero grade air or nitrogen @ 9 psi incoming pressure

Span calibration gas: Known concentration of operator selected hydrocarbons balanced in either air or nitrogen @ 9 psi incoming pressure

Optional gasses: UHP nitrogen for units with dilution option @ 10 psi incoming pressure; Oil / Water / Hydrocarbon free instrument air for internal cleaning option @ 50 psi incoming pressure

Power requirements: 115 VAC @ 60Hz @ 600 Watts or optional 220 VAC @ 50 Hz @ 600 Watts

## Related Available Equipment

- Zero air generator – reduces bottles
- Hydrogen generator – reduces bottles
- Heated sample lines and controllers
- Strip chart recorders and data loggers

## TELEDYNE ANALYTICAL INSTRUMENTS

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## Warranty

Instrument is warranted for 1 year against defects in material or workmanship

NOTE: Specifications and features will vary with application. The above are established and validated during design, but are not to be construed as test criteria for every product. All specifications and features are subject to change without notice.

