TELEDYNE ANALYTICAL INSTRUMENTS

MODEL 402REU

Hydrocarbon Analyzer

Teledyne's Model 402REU Hydrocarbon Analyzer utilizes a flame ionization detector for the continuous measurement of total hydrocarbons at trace levels in process gas streams. The principle of operation is based on measuring the ion current generated when organic compounds are dissociated in a hydrogen flame. Full scale monitoring as low as 0-1 ppm is available.

The 402REU is ideal for monitoring hydrocarbon contamination in high purity gases (nitrogen, argon, oxygen, hydrogen) and for other industrial applications. This unit features a compact 19" rack mountable housing, digital readout, signal output and an optional sample selector module that controls sample, zero and span gases.

Detector

The heart of the 402REU is a flame ionization detector (FID). Sample gas entering the detector is heated in a hydrogen flame, which ionizes the hydrocarbons. The ionized hydrocarbons cause a current to flow between two electrodes in the flame. This current is proportional to the level of hydrocarbons present and is measured by a precision electrometer amplifier. The signal generated is sent to the analyzer electronics for processing.

Gas Control System

The 402REU controls gas flow and assures accuracy by maintaining a pressure drop across unique sintered stainless steel restrictors. A pressure regulator maintains constant flow over a wide range of sample inlet pressures. Sample and auxiliary gas flow hardware are contained in a temperature controlled chamber for optimum stability throughout the operating temperature range. The low volume sample path, in conjunction with a variable sample bypass system, provides fast response to process changes.

Electronic Flame Guard

A flame guard circuit is a standard feature on the 402REU. This circuit uses a thermistor to monitor flame condition; an indicator light confirms routine flame operation. In the event of a flame out or power failure, the flame guard circuit activates an alarm and closes the fuel shut-off solenoid valve, thereby preventing any fuel leaks.

Optional Sample Selector Module

This recommended option provides an easy access integral system for control of sample, span and zero gases. Included with this option are a manual 3-way valve, sample bypass flowmeter, and all necessary tubing and fittings. The system is integral and fully assembled. The front panel of the unit is hinged allowing easy access to the sample selector module and gas control system. The case also features a removable top panel for easy maintenance.

Features

- Three standard ranges
- Optional ranges as low as 0-1ppm full scale
- Temperature controller and isothermal chamber maintain precise flow control and prevent condensation
- Integral digital meter; analog output for remote indication, recording or display
- Stainless steel sample system
- Isolated 4-20mADC output
- Electronic flame guard circuit automatically shuts off fuel flow in the event of a flame-out or power failure
- CE marked

MODEL 402REU HYDROCARBON ANALYZER

SPECIFICATIONS

Ranges:	0-10, 0-100, 0-1000 ppm HC standard (methane equivalent)
Sensitivity:	1% of full scale
Accuracy:	+/-2% of full scale at constant temperature
Response time:	90% in less than 15 seconds
Operating temperature:	41 - 110°F
Fuel:	Mixture of 40% hydrogen / 60% nitrogen recommended (other mixtures are possible - contact factory)
Sensor type:	Flame ionization detector with flame guard
Signal output:	Internal - digital panel meter External - 0-1VDC, 4-20mADC
Max. load impedance:	4-20mA isolated output 1000 ohms
System power requirements:	115 or 220 VAC, 50/60Hz
Max. power consumption:	90 VA
System enclosure:	19" rack mounted steel enclosure 19" W x 8.75" H x 15.5" D (48.3cm x 22.2cm x 39.4cm)

OPTIONS

- 0-1, 0-10, 0-100 ppm ranges
- Sample selector module for control of sample, span and zero gases
- Special system for monitoring hydrocarbons in hydrogen
- Two alarm set points with relay contacts, 3A at 30 VDC or 110 VAC resistive
- 100 VAC or 220 VAC, 50/60Hz operation

APPLICATIONS

- Monitoring the purity of oxygen, argon, nitrogen and other blanketing gases in the manufacture of microcircuits
- Monitoring hydrocarbon contamination in air liquefaction and other gas production processes
- Gas purity certification
- Detecting trace hydrocarbons in ambient air
- Detecting atmospheric pollutants
- Cryogenics
- Monitoring for fuel leakage or toxic solvents
- Monitoring hydrocarbons in CO2 feed streams in the food / beverage industry

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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.

ISO 9001:2000 – QMS
MGMT. SYS. RvA C 050
CERTIFICATION
ANAB ACCREDITED
Intertek