

**INFRARED**

# COMBUSTIBLE GAS SENSOR / TRANSMITTER



The Endee Model IR 621 & 622 Infrared Point Detector are a microprocessor based hydrocarbon gas detector that continuously monitoring combustible gases & vapors within the lower explosive limit (LEL) & 0 - 100 %V respectively & provide linear output proportional to concentration.

**NO CALIBRATION | 5 YEARS LIFE**  
**SMART SENSOR INTERFACE | NO CROSS INTERFERENCE**



IR 621 Measures 0 - 100% LEL  
of Combustible Gases

**IR 621**

IR 622 Measures 0 - 100% V  
of Combustible Gases

They utilize a field proven, time tested & PATENTED MINIATURE PLUG-IN OPTICAL SENSOR. They are suitable for applications where catalytic sensors will not work.

All electronics are contained within an explosion -proof housing so that the detector information can be processed locally . These transmitters offer low drift combined with high accuracy and are a very low maintenance instruments. They do not require span calibration. Zero point adjustments are required infrequently Temperature compensation is built-in resulting in extremely low temperature drift.

## SPECIAL FEATURES

- COMPATIBLE WITH PLCS , SCADA, DCS
- OR A VARIETY OF HOST CONTROLLERS VIA
- 4-20 mA & OR RS 232
- UNIQUE MINIATURE PLUG IN FIELD
- REPLACEABLE OPTICAL SENSOR
- 5 YEARS EXPECTED SENSOR LIFE
- LOW MAINTENANCE
- TRUE GAS DETECTION PERFORMANCE
- NO ROUTINE CALIBRATION REQUIRED
- 4-20 mA OUTPUT
- SMART SENSOR INTERFACE
- LOW CROSS SENSITIVITY
- TEMPERATURE COMPENSATION
- MICROPROCESSOR CONTROLLED
- RANGE AVAILABLE FROM PPM TO PERCENT

## OPERATING PRINCIPLE

Gas detection by the infrared method is based on the principle that most gases absorb infrared energy at a characteristic frequency. Any Hydrocarbon in the gas sample cell selectively absorbs energy reaching the detector. This change in energy is detected, amplified and sent to the signal processing portion of the system. The sensor contains a pulsed infrared source, a gas sample cell, optical filter and a detector, which provides an electronic output that can be converted into gas concentration values. The dual-wavelength technology compensates for variations in the infrared source and/or the measuring cell.

## APPLICATIONS

- Refineries
- Drilling Rigs & Platforms
- Fuel Loading Facilities
- Compressor Stations
- Oil Well Logging
- LNG / LPG Processing & Storage Facilities
- Wastewater Treatment Facilities
- Gas Turbines
- Solvent Vapors
- Breweries

## SPECIFICATIONS

Function	: Sensor & transmitter
Sensor Type	: Non-dispersive Infrared Optical (NDIR)
Measuring Ranges	: 0 - 100% (lower explosive limit) LEL
Gases	: Hydrocarbon, propane, ethane, butane, hexane, pentane & benzene (For other gases contact factory)
Gas sampling method	: Diffusion or Sample Draw
Response	: <7sec (T90)
Case	: Explosion Proof
Power Supply	: 24VDC Nominal
Digital Interface	: RS232
Sensor Connection	: Plug in
Accuracy / Repeatability	: $\pm 0.1\%$
Zero Drift	: $\pm 0.005\%$ per month
Pressure	: 1 Atm $\pm 10\%$
Operating Temperature Range	: $-20^{\circ}\text{C}$ to $+75^{\circ}\text{C}$
Operating Humidity Range	: 0 - 95% RH non-condensing
Outputs	: Linear 4 - 20mA DC
Electrical Classification	: Explosion proof Class I, Division 1, Groups B, C, D.
Sensor Life	: 5 years

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. Due to endee's commitment to research, design and product improvement, specifications are subject to change without notice.